

**HOW TACTICAL EXPERIENCE AFFECTS
CONFIDENCE ABOUT COMBAT DECISION MAKING**

A thesis presented to the Faculty of the U.S. Army
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fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

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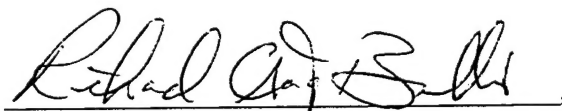
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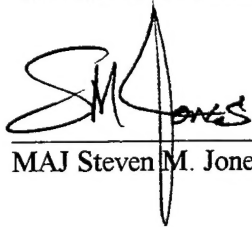
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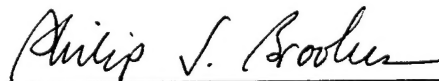
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ABSTRACT

HOW TACTICAL EXPERIENCE AFFECTS CONFIDENCE ABOUT COMBAT DECISION MAKING by MAJ Gregory D. Reilly, USA, 106 pages.

This study examines how tactical experience affects confidence about combat decision making. Observations made at the nation's Combat Training Centers indicate that maneuver battalion commanders fall short in making sound decisions once operations commence. Decision theory indicates that experience is central to decision making, and confidence is positively related to making rapid decisions under conditions of uncertainty. Two hypotheses were developed predicting a positive relationship between amount of tactical experience that a combat arms officer has and his confidence about making combat decisions.

Survey data enabled satisfactory testing of the hypotheses. Subjects included all Infantry and Armor officers attending Command and General Staff Officer Course, 1996-97. The survey captured all subjects' professional experiences, in months, and measured confidence about decisions they made in response to three tactical vignettes. As predicted, analysis revealed a significant positive relationship between one's amount of tactical experience and his confidence about combat decision making. Increased tactical experience enhances a maneuver battalion commander's confidence about combat decision making, enabling him, perhaps, to make the speedier combat decisions that retain the initiative on the battlefield. Implications for professional development of combat arms officers are addressed, and issues requiring further research set forth.

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CHAPTER 1

INTRODUCTION

To master the difficult art of command, the leader (commander) must cut to the heart of the situation, recognize its decisive elements and base his course of action on these. The ability to do this is not God-given, nor can it be acquired overnight; it is the process of years. He must realize that training in solving problems of all types, long practice in making clear, unequivocal decisions, the habit of concentrating on the question at hand, and the elasticity of mind are indispensable requisites for the successful practice of the art of war.¹

Edwin F. Harding, Infantry In Battle

According to Army doctrine, outlined in FM 100-5, Operations, leadership is the most essential component of combat power.² The maneuver battalion commander is responsible for leading and fighting his unit in combat. At the battalion-level, he is the essential influencer of combat power. He must have an understanding of all the tools at his disposal, and the skill to apply them effectively and quickly and in a variety of contexts.³ Although the maneuver battalion commander enters a level of command much broader in scope and responsibility than previously encountered, he must be an expert in the management of violence if his force is to be a fully capable fighting organization.⁴ That expertise is developed from innate skills as well as extensive experience and learning. He leads his staff to develop plans and execute orders to arrange battlefield activities that accomplish assigned missions. Once hostilities begin, however, the commander faces changing situations that require him to make uniquely personal and rapid combat decisions. These immediate decisions may include: commitment of the reserve, reallocating

priority of fires or combat power, altering attack avenues of the maneuvering force, breaking contact, and modifying actions on contact.

When hostilities commence on the battlefield, the maneuver battalion commander uses the combat decision-making process (CDMP).⁵ Unlike the deliberate decision-making process (DDMP), the combat decision-making process may require the maneuver battalion commander to make decisions on the spot with the information he has available at the moment. He may not have the luxury of time to conduct a thorough analysis or even consult with his staff before making decisions. The combat decision-making process is much more difficult because of the uncertainty associated with the rapid pace of maneuver operations. Uncertainty on the battlefield is magnified when accurate and timely information that is not available to the commander. As uncertainty increases, the maneuver battalion commander's awareness and knowledge of the friendly and enemy situation become obscure. In these instances, the maneuver battalion commander may become more reliant on his experiential feel when making decisions.⁶ General Gordon R. Sullivan, former Chief of Staff of the Army, emphasizes this point:

The very nature of war consists of fear, fog, danger, uncertainty, deception, and friction. These are not conditions that can ever generate perfect information. Developing commanders who are able to make decisions, on the spot, within the intent of their higher commander will remain vital even into the 21st century.⁷

Today, the Army is producing and testing advanced digital information systems aimed at improving the maneuver battalion commander's situational awareness of the battlefield. The Force XXI Brigade (1st Brigade, 4th Infantry Division, Ft. Hood) is experimenting with over sixty new weapons and information systems that incorporate advanced technologies designed to improve the combat capabilities of the Army.⁸ One of the main initiatives of the experiment focuses on providing near real-time information to the commander about the location of friendly and enemy forces.⁹ The improved systems digitally connect all combat, combat support, and intelligence

collection assets to a central computer that builds imagery aimed at improving the commander's battlefield visualization.¹⁰ It would seem that as information collection and dissemination systems improve, so would the commander's ability to make rapid combat decisions. Paradoxically, as systems advance, so do their technical complexity and training requirements increase.

A look into history indicates that the challenges of combat decision making do not necessarily diminish with improved communications systems. The increase of the amount and speed in which information is provided does not necessarily enhance rapid decision-making abilities. Major General J. F. C. Fuller made this point in 1932 at a time when great technological advances, such as the airplane, radio, and mechanization made their way into warfare:

Such inventions as aircraft and wireless communications will lift the fog of war. It is true that they may lift certain corners of it; but in my opinion, the bulk of it will remain just as dense. Constant and often conflicting information will bewilder the decision maker just as much as complete ignorance would.¹¹

Improving the amount and speed in which information becomes available to the maneuver battalion commander does not necessarily improve combat decision-making abilities. Regardless of the amount, timeliness, and accuracy of information available, the maneuver commander must still interpret, evaluate, and make judgments about the information. Having information and understanding how to use it may require skills that are internal to, or otherwise learned by, the decision maker. Surely experience must play some role in the maneuver battalion commander's ability to make rapid judgments about the value and significance of information.

Statement of the Problem

The Combat Training Centers (CTCs) serve as a primary laboratory for testing, training, evaluating, and preparing Army maneuver battalions and brigades for combat operations.¹² To the extent possible, the CTCs fully replicate the conditions maneuver battalion commanders may face during combat and operations other than war (OOTW).¹³ At the CTCs, battalion commanders

make decisions under conditions of uncertainty and stress, often with very little reaction time. There is ample evidence, supported by observations from the CTCs, indicating battalion commanders fall short in properly applying the combat decision-making process (CDMP) and in making sound decisions.¹⁴ In data collected between the fourth quarter of 1994 and the second quarter of 1996, observer controllers indicate the following negative trends: (1) employment and integration of a reserve is ineffective, (2) commanders do not focus, shift, or mass fires with sufficient control, (3) command and control is inadequate to manage maneuver and fires, (4) actions on contact are slow and indecisive, and (5) predictive analysis is lacking to anticipate the next action.¹⁵

The inadequacy of commanders to properly demonstrate the combat decision making ability is not unique to the CTCs. Results from the Battle Command Battle Lab (BCBL) reflect similar and systemic problems throughout the Army from division- and corps-level simulation exercises.¹⁶ These evaluations echo the findings of evaluations at the CTCs: (1) commanders do not know or understand Army doctrine for the proper employment of the battlefield operating systems, (2) commanders do not use or understand the decision-making process, and (3) commanders do not have the ability to synchronize the battlefield.¹⁷

Decision making involves aspects both internal to, and quite distinct from the decision maker. External to the decision maker are improvements in information collection, accuracy, and speed in dissemination that combine to improve the data available for decision making. This enables improvements in rational thought and decision making. Similarly, there are inherent qualities that the decision maker, himself, brings to the process. These are often holistic rather than specific, and may include the decision maker's experience, judgment, confidence, intuition, and cognitive complexity.¹⁸ Also contributing to the process applied by the decision maker is the method of making a decision. In most cases, the circumstances in which the decision must be made

determines the appropriate process or method to apply. In a tactical environment, depending on the time available, this may be either the deliberate or the combat decision-making process. It would seem that as advancements in technology improve the quality of data available, there should also be research aimed at improving the capabilities of the decision maker. This study examines the possible role experience may play in the maneuver battalion commander's abilities to make sound combat decisions.

The impetus for this study lies in observations made at the nation's CTCs indicating commanders' inability to make sound tactical decisions. To what extent might the amount of previous experience a maneuver battalion commander have contribute to his decision making ability? According to DA Pamphlet 600-3, Commissioned Officer Development and Career Management (1995), the qualifying criteria for selection to battalion command is two years (12-18 months company command, one year at the field grade level).¹⁹ Notwithstanding, officers typically serve a full one third of their assignments in operational assignments (i.e., platoon leader and battalion staff).²⁰ How much does this time in operational assignments contribute to the combat decision making abilities of the battalion commander? How much and what kind of experience is enough to ensure desired combat decision making abilities?

Combat arms officers enjoy a variety of experiences during the course of their career. It seems plausible that these experiences combine in some way to contribute to a battalion commander's combat decision making ability. Perhaps there is an "art" component that stems from innate abilities, but it seems equally likely that experience must also play a role. One would think that company command experience during the Gulf War (Desert Shield and Desert Storm, 1992) or experience at the CTCs surely must account for some value different and more than experience derived from a recruiting command assignment. To what extent does experience play a role in enhancing decision making is a question this study aims to better understand.

Carl von Clausewitz recognized the significance of experience and practice in the leader's ability to make decisions at the critical moment in combat. He referred to this ability as "coup d'oeil:" the ability to see the enemy, see the ground, and take actions that will bring decisive combat power at the right place.²¹ Clausewitz believed that training and combat experiences develop the leader's ability to remain resolute and maintain the presence of mind required to make decisions during the fog and friction that accompanies battle.²² Today, similarities exist between "coup d'oeil" and what is called "Battle Command."²³ The officer competencies associated with battle command are: see the enemy, see yourself, visualize the battlefield, and see into the future.²⁴ Combat arms officers develop these competencies over time throughout their careers serving in operational assignments, attending Army educational institutions, and through self-development.²⁵ Experience obviously plays some role in developing the competencies that are recognized as important in the commander's ability to make sound combat decisions.

The scope of operations today, and in the future, will likely place battalion commanders into situations where they have little, if any practical experience. The Army has conducted multiple OOTW during the last five years (Haiti, Somalia, Cuba, Iraq, Kuwait) and today, maneuver battalion commanders are posted in Bosnia conducting peace enforcement operations. Not unlike the impact seen at the collective-level, it would seem plausible that operations of this nature may also result in degraded decision making abilities caused by fewer mission essential task list (METL)-related training opportunities and experiences. Absent sufficient and relevant experience, one would expect commanders to have less confidence about decision making relative to combat operations.

The declining readiness posture and performance of rotational units training at the CTCs has become an important issue in the Army.²⁶ General Hartzog, Chief of the Army's Training and Doctrine Command, acknowledges that units are not as well prepared today as they were a few

years ago and attributes this directly to reduced funding that has limited combat training.²⁷

Hartzog indicated that declining performance may be a result of maneuver battalions restrained from conducting high-cost maneuvers at home prior to deploying to the CTCs. As a consequence, the extent to which maneuver battalion commanders and subordinate officers may be losing their edge in terms of not having sufficient experience to develop decision making skills, remains an empiracle question.

The Research Question

The results of recent empirical studies suggest that a leader's confidence correlates with the pace and quality of strategic decisions.²⁸ Evidence also suggests that confidence in decision making results from (case-based) experience and successes achieved under similar conditions in the past.²⁹

Given the problems identified at the CTCs, and elsewhere about the commanders' lack of sufficient combat decision-making abilities, one is led to wonder about the degree to which experience, both in quality and quantity, may play a role. Specifically, is there a relationship between the amount and quality of tactical experience a maneuver battalion commander may have and his confidence about making combat decisions? To what extent does a maneuver battalion commander's confidence in making combat decisions increase as his variety of experiences increases? This study aims to develop and test hypotheses associated with each of these questions.

Interest in this topic comes from a concern that, perhaps, combat arms officers do not have sufficient numbers of experiential learning opportunities in tactical units from which to draw upon when applying combat decision-making skills. Absent the time or opportunity to examine actual decision-making ability at one of the CTCs, this research investigates how experience in operational assignments might affect Command and General Staff Officer Course (CGSOC)

officers' confidence about tactical decision making when projecting themselves into the role as maneuver battalion commanders. One would expect that confidence about making pivotal decisions, even in a relatively sterile laboratory like CGSOC, might be similarly affected by the extent a combat arms officer had tactical experience and relevant training opportunities. While high confidence about tactical decision making does not ensure high decision quality, there can be little doubt that low confidence about one's ability is reflective of at least a perception of low ability. Consistent with this relationship, confidence is examined as a consequence of experience an officer acquires from commissioning to attendance at CGSOC. This subject is developed further in Chapter 3.

It is important to the Army's readiness to better understand and rectify the negative trends observed in combat decision making at the CTCs. As Army doctrine evolves to fit the changing capabilities of new systems and absorbs the infusion of digitization of the battlefield, the art of warfare will likely require decision makers to make more, not fewer, rapid tactical decisions on their own. The significance of this study lies in the need to recognize the possible impact of experience gained through operational assignments on the confidence officers have in making rapid tactical decisions. Results of this research may suggest a need to consider altering the current assignment trends of officers as they develop into maneuver battalion commanders.

¹Edwin F. Harding, Infantry In Battle (Richmond, VA: Garret and Massie, 1939), 1.

²U.S. Army, FM 100-5, Operations (Washington, DC: Headquarters, Department of the Army, 1993), 2-9.

³U.S. Army, FM 71-2, The Tank and Mechanized Infantry Battalion Task Force (Ft. Benning, GA: Headquarters, Department of the Army, 1988), 1-8.

⁴Samuel P. Huntington, The Soldier and The State (Cambridge, MA: The Belknap Press of Harvard, 1957), 32.

⁵U.S. Army, ST 101-5, The Tactical Decision Making Process (Ft. Leavenworth, KS: U.S. Army, Command and General Staff College, 1996), 1-6.

⁶Ibid., 1-2.

⁷Gordon R. Sullivan and James M. Dubik, Envisioning Future Warfare (Ft. Leavenworth, KS: U.S. Army Command and General Staff College Press, 1995): 15.

⁸William W. Hartzog, "Synergy For the Next Century," Army 46 (May 1996): 21.

⁹Ibid.

¹⁰Wallace C. Arnold, "Manprint Battle Command and Digitization," Military Review LXXV (May-June 1995): 50.

¹¹J. F. C. Fuller, Operations Between Mechanized Forces (London: Sifton Praed and Co., 1932), 29; reprint, Ft Leavenworth KS: Command and General Staff College Press, 1996.

¹²Gordon R. Sullivan, "Flexibility Sets The Pace at Combat Training Centers," Army 43 (July 1993): 29.

¹³U.S. Army, FM 25-101, Battle Focused Training (Washington, DC: Headquarters, Department of the Army, 1990), D-2.

¹⁴U.S. Army NTC Priority Trends (Ft. Leavenworth, KS: 1996), 14; (several sitings throughout the pamphlet used)

¹⁵Ibid., 6.

¹⁶U.S. Army, Pamphlet, 2-1, Battle Command Battle Lab Focused Rotation Findings (Ft. Leavenworth, KS: 1996), 1-5.

¹⁷Ibid., 1-5, 1-9.

¹⁸Louis R. Pondy, The Executive Mind (San Francisco: Jossey-Bass Publishers, 1983), 169.

¹⁹U.S. Army, DA Pamphlet 600-3, Commissioned Officer Development and Career Management (Washington, DC: Department of the Army, 1995), 6-8.

²⁰Ibid.

²¹Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 102.

²²Ibid., 120.

²³John E. Miller, "Battle Command," Military Review 25 (July-August 1995): 5.

²⁴Combat Studies Institute, Staff Studies In Battle Command (Ft. Leavenworth, KS: U.S. Army Command and General Staff College, 1996), v.

²⁵U.S. Army, DA Pam 600-3, 1-8.

²⁶Sean D. Naylor, "Budget Bites Into NTC Rotational Fund," Army Times (February 1997): 18.

²⁷*Ibid.*, 18.

²⁸Peter R. Dickson and Norris Kruegar, Jr., "How Believing in Ourselves Increases Risk Taking: Perceived Self-Efficacy and Opportunity Recognition," Decision Sciences Journal 25 (1995): 385.

²⁹Itzhak Gilboa and David Schmeidler, "Case-Based Decision Theory," The Quarterly Journal of Economics (August 1995): 608.

CHAPTER 2

LITERATURE REVIEW

In reality, all arguments from experience are founded on the similarity which we discover among natural objects, and by which we are induced to expect effects similar to those we have found to follow from such objects. From causes which appear similar, we expect similar effects. This is the sum of all our experiential conclusions.¹

Hume, The Philosophy of David Hume

General

There is not a universal theory of decision making that, by itself, addresses the research question: What role does experience play in shaping confidence about making tactical decisions? Hypotheses are formulated by combining related theories about decision making, experience and the extent to which confidence relates to actual decision-making abilities. Examining the potential link between experience, confidence, and combat decision making entails a review of the literature that includes: theory of the Union of Rational and Intuitive Thought, Test-Operate-Test-Exit (TOTE) Decision Cycle Theory, and Utility Theory. A number of empirical studies are also pertinent to the development of hypotheses including studies relating to Case-Based Decision Theory, self-efficacy in decision making, and the role of risk in decision making.

In this chapter, the process of making decisions is first explained from a variety of diverse perspectives. Thereafter, empirical evidence is applied to isolate variables of interest, such as experience and confidence, to show how they may impact decision making. Finally, hypotheses resulting from a compilation of relevant literature and available evidence are formulated.

The vignette that follows is a battlefield situation that is referred to throughout the literature review. It is provided to enhance understanding of decision theory as it applies to the maneuver battalion commander operating in a tactical environment. Consider the following:

You are a battalion commander conducting offensive operations. Your battalion is at 90% strength and has traveled for several hours to reach the planned attack position. Your battalion is the main effort in a brigade hasty attack with the mission of defeating a company size element holding a position key to future operations. You arrive at the attack position and find the position undesirable for many reasons. You know that the attack is to commence in 60 minutes, and elect to reposition prior beginning the brigade attack. In the act of repositioning you lose communication with your brigade commander and cannot notify him of your decision to reposition. While repositioning, your lead company moves into a minefield and begins taking sporadic enemy direct fire. The company commander reports he's been ambushed and has several casualties, but only one platoon is decisively engaged. Time is running out. If you break contact now you may continue with the hasty attack as planned.

In the scenario above, the battalion commander is faced with making a decision. He must quickly assess available information and weigh the advantages and disadvantages of each course of action prior to issuing orders. As the battalion commander assesses the situation, valuable time is lost; therefore, he must make a decision quickly. Without the luxury of having complete information, he may consider the following courses of action: (1) break contact with the remainder of the force (with all but the one platoon that is in contact) and head towards the line of departure as planned; (2) place the operations officer (S3) in command of the current situation, leaving the company in contact to defeat the immediate threat and depart with the rest of the Task Force to the line of departure; (3) commit additional combat power (above and beyond that one company) to the current fight and quickly defeat enemy forces in contact, then attempt to make up time to join the brigade in the main attack; or (4) delay his decision by sending a messenger to the brigade commander advising him of the situation, and suggesting reallocation of the main effort to another battalion.

Given these choices, how confident is the maneuver battalion commander that the decision he makes is the best alternative available? To what extent would the commander need input from

his staff in making his decision? To what extent does the commander need a second opinion prior to implementing the decision? Is there a relationship between the amount and quality of tactical experience a maneuver battalion commander has and his confidence about making combat decisions?

The maneuver battalion commander leads his battalion during combat operations and must make rapid decisions, often when needed information is lacking and time is limited. In addition, several physical and mental obstacles combine to complicate the commander's ability to maintain command and control of his battalion once hostilities commence. The physical elements of dense smoke, adverse weather, rugged terrain, and equipment failure may be compounded by the lethality and speed, and the distance away in which events occur. All of these factors challenge the maneuver battalion commander's ability to accurately track events as they quickly unfold. As direct fire, and artillery exchanges between forces begin, danger increases. This causes anxiety and fear which increase the mental stress placed on soldiers and leaders. These factors cause friction and may degrade the speed, accuracy, and volume of reports that are vital to the maneuver battalion commander's understanding of the situation. Carl von Clausewitz referred to uncertainty on the battlefield as friction which makes even the simplest tasks difficult for the maneuver battalion commander to execute.²

Combat Decision Making

The decision-making process that the maneuver battalion commander applies depends on the amount of time and information available to him when a decision is needed.³ Prior to hostilities commencing, during preparation for combat operations, sufficient time is usually available for the commander to apply the deliberate decision-making process (DDMP).⁴ During deliberate decision making, the commander, with his staff, receives the mission from their higher headquarters,

conducts analysis, and formulates feasible, suitable, and acceptable courses of action to accomplish a specified mission. During this process the commander provides his staff guidance by identifying basic decision criteria and establishing general parameters for which courses of action are developed. Upon receiving the staff's recommendation, the commander selects a course of action he feels best fits his criteria and will most effectively achieve his desired objectives. His decision results in the formulation of plans and orders that are then briefed and disseminated to subordinate commanders. Once operations commence the commander uses the combat decision-making process (CDMP) to make decisions. The CDMP is continuous and requires the commander to make decisions as events unfold in real time.⁵ Although both the DDMP and CDMP require the maneuver battalion commander's involvement, the CDMP relies predominately on he, alone, as he continuously conducts his personal assessment, formulates concepts, and makes decisions.⁶

When time does not permit the maneuver commander to direct his staff to conduct a more formal deliberate decision-making process, he must rapidly process available information by applying the deliberate steps himself to make decisions.⁷ The appropriate method to apply, DDMP or CDMP, is situationally dependent; however, both rely on the commander's professional knowledge, logic and judgment.⁸ Combat decision making requires coherent mental activities that support sound decision making. It includes the logical identification of the mission, development of concepts for executing the mission, evaluation of concepts, and communication of the decision in a clear, concise manner.⁹ Combat decision making occurs once operations commence and requires rapid, acceptable decisions that allow the commander to successfully move and execute tactical fire and maneuver in the limited time available.

The ability of the maneuver battalion commander to make decisions faster than the adversary may be the decisive advantage that enables his force to prevail on the battlefield.¹⁰

Colonel John R. Boyd, USAF (Ret), developed the OODA Loop (observe, orient, decide, act) after conducting a study on the successes and failures of fighter pilots during combat missions. He discovered that the pilots who were able to observe, orient and decide faster than the enemy would usually win the fight. This concept is now being applied to Army doctrine indicating the acceptance of the premise that there is a tactical advantage attached to the ability to make rapid combat decisions. These thoughts emphasize that advantages occur when decisions are made at a pace ahead of the enemy's decision cycle.

Decision Theory

Our understanding and explanation of human behavior, including decision behavior, is limited and inexact. TOTE Theory (test-operate-test-exit) provides a decision model that explains basic decision behavior. This model "is concerned with the theoretical vacuum between cognition and action."¹¹ TOTE Theory attempts to provide a basic structure to explain individual decision-making behavior. In this dynamic model, to "test" means to determine the reason for perceived incongruency. Incongruency is the difference between the perceived or expected state of the environment and reality.¹² In applying the TOTE model, the test phase begins when the decision maker receives an indicator that a problem may exist. He then uses his experience and judgment to determine if "operation" activities are necessary to solve the problem.¹³ Once it is determined that incongruency does exist, the decision maker will apply "operation" activities, which are decisions aimed at reestablishing congruency. Operations activities are actions directed at solving problems that are interfering with what is perceived as desirable. Once operation activities begin, the decision maker transitions into the "test" phase. The test phase is the observation by the decision maker to ensure operation activities are producing the anticipated and desired modification.¹⁴ The final phase of the TOTE cycle is the "exit" phase. Transition to this phase begins once

congruency is reestablished and the decision maker is satisfied that operations are no longer required.¹⁵

The TOTE cycle is fluid with steps often overlapping. During any single TOTE cycle several sub-TOTE cycles may be operating, the number of which may depend on the complexity of the problem.¹⁶ During the initial test phase, recognizing incongruency may require several sub-cycles such as identifying the cause of the problem or an assessment of the facts available. While one cycle may involve interpreting information, another may be working to assess the impact of the current problem on other related activities. During the operation phase, plans are required to bring a given altered environment back to congruency. The behavioral complexity levels individuals have to plan and operate multiple TOTE cycles depend upon the complexity of plans developed from past experiences and the frequency of their application.¹⁷ The more times an individual processes through the TOTE cycle, the more TOTE cycles may be simultaneously processed.

TOTE Theory suggests that the decision maker's ability to quickly make decisions in complex situations may be related to the prior experiences of the decision maker in solving problems.¹⁸ A decision maker with experience solving complex problems that require multiple TOTE cycles may recognize incongruency quicker and have the ability to rapidly visualize actions needed to solve problems. TOTE Theory suggests that confidence to rapidly develop plans, and the level of complexity of the plans may be derived from successful experiences where complex problems were solved. Furthermore, the theory suggests that the time to identify problems and speed in which cycles are processed are also based on the decision maker's ability to make inferential alignments of past experience to the present situation.¹⁹

In the vignette presented at the beginning of the chapter, the battalion commander must rapidly process several TOTE cycles and make decisions that enable his force to accomplish the assigned mission. The battalion commander realizes incongruency once circumstances occur that

deviate from the plan, such as the platoon moving into a minefield. The commander immediately enters the test phase and assesses what happened, why, and the impact on planned actions. There is cognitive incongruity which demands decision making. The commander then begins identifying possible actions available that may enable his force to continue with the planned operation. Any course of action he considers will likely include activities that are aimed at quickly assisting the platoon that is in contact, while also ensuring that he can continue with the brigade attack. Sub-TOTE cycles that may be simultaneously operating at this point include: actions that try to reestablish radio contact with the brigade commander; repositioning of himself to improve his own visibility over the situation; analysis to determine the size of the force required to remain at the current location should he decide to continue to the line of departure with forces not in contact; and the additional evacuation and command and control support required if he leaves the force behind in contact. As the commander enters the "operation" phase, he formulates plans and issues orders that are a result of conclusions generated from several sub-TOTE cycles. In applying TOTE Theory, his ability to rapidly process cycles may be based on his experience in processing TOTE cycles of a similar nature.

Combat decision making requires the commander to rapidly make decisions, following mentally through the steps of the deliberate decision-making process. In doing this he quickly conducts analysis and applies his judgment when making decisions.²⁰ The following theory provides added explanation about how the maneuver battalion commander moves from analysis to decision.

The Theory of Union of Rationality and Intuition in Decision Making builds on research suggesting split-brain functioning and dual mode consciousness in decision-making behavior.²¹ The Theory of Union of Rationality and Intuition explains the difference between rationality and intuition. Rational thought is reflective of analytical, sequential, convergent, detailed, logical,

scientific, objective, digital, or explicit thinking.²² Intuitive thought is based on pattern-recognition, and is subjective, analogue, or tacit. The theory states that rational behavior prevails in knowing, (gathering the facts, doing the analysis) and intuitive thought is reflective of the process translating analysis into understanding (interpreting the analysis).²³ The Theory of Rationality and Intuition argues that the behavior of individuals demonstrates a relationship of mutual context between the different spheres of rationality and intuition. Intuition is the trained analysis of facts that are grounded in lived experiences.²⁴ Imaginative interpretation of the facts to draw relative conclusions about the significance to a situation requires both rationality and intuition. As is explained by Cyril Smith (1978), "nothing is a thing by itself; it takes meaning, indeed existence, only as it interacts with something else."²⁵

The Theory of Union of Rationality and Intuition provides a possible explanation of how the battalion commander, in the vignette presented at the beginning of this chapter, may depend on experience to interpret information. Applying this theory to the vignette, as the battalion commander receives initial reports that a problem exists, he begins gathering facts as part of rational analysis. The theory suggests that his ability to quickly interpret this information and develop an understanding of the situation results from his experience in interpreting similar types of information in the past. The battalion commander, in the vignette, knows a platoon is in the minefield and is receiving sporadic enemy fire. But how does the battalion commander derive solutions to the problem? He may receive the initial report and intuitively think that the platoon in contact, with its superior fire power and mobility, may be able to quickly defeat the threat and continue the mission. He may, on the other hand, not have any intuitive judgment initially and may decide to continue gathering information until his understanding of the situation improves.

During the CDMP, the commander continuously monitors battlefield activities and chooses between alternative actions as the situation develops. He does this by mentally comparing

alternatives against decision criteria of what is most suitable, acceptable and feasible.²⁶ Utility Theory explains the process the commander uses in determining which actions are most feasible, acceptable and suitable. The premise of Utility Theory is that when individuals are faced with making decisions that involve risks, they will choose alternatives that maximize the value of outcomes.²⁷ This theory suggests that choices are made based on expectations about higher utility between possible courses of action. In applying this theory to the vignette, the commander faces several alternatives: he may leave a company in contact and continue the mission as planned; he may dedicate more combat power to the current fight and risk success of the brigade attack, or he may send a request to the Brigade Commander to put another contingency plan into effect. Each of these alternatives carries with it certain advantages and disadvantages. In making his decision, only the maneuver battalion commander may interpret how much utility exists for each alternative. The expected utility the commander places on each alternative will be based on expectations he formulates from values he places on each. Values may be influenced by elements of risk, flexibility, time, or the information he has available. Utility Theory implies that personal judgments placed on choices are based on one's values at a particular moment, without reference to the past.²⁸

Utility Theory is based on individual rational behavior.²⁹ The theory states that individuals, when given choices, will choose the alternative that yields the highest value. Unlike intuitive behavior, where facts are interpreted and judgments are made, Utility Theory assumes that individuals are rational and will make decisions based on the facts available. Applying Utility Theory to the maneuver battalion commander in the vignette, the commander will base his decision more on the tangible evidence that exists at the moment rather than on his experiential feel or judgment. The maneuver battalion commander, without reflecting on past experience may decide to dedicate more combat power to the platoon in contact because this is where he sees the highest

immediate utility. The commander may perceive lower utility in another alternative, such as leaving the company in contact and moving the remainder of his force to the line of departure.

Another approach to explain choice lies in a study that suggests that decision making under uncertainty is at least partly, case-based.³⁰ Case-based implies that decisions are made based upon outcomes of past experiences.³¹ Unlike Utility Theory, where the decision maker places value on alternatives using information available at the moment, Case-Based Decision Theory suggests that experience motivates choice. For instance, the route a vacationer selects to travel on when planning a vacation may be influenced by the traveler's experience of traveling particular routes in the past. The vacationer, although concerned about choosing the shortest route, may overlook alternatives that offer shorter distances because he is more comfortable with choosing a route he is familiar with. Interestingly, in numerous studies it has been demonstrated that the data that influenced decision behavior most was past performance, rather than current data where utility could be directly interpreted.³² This evidence suggests an alternate method for explaining the rationale behind decision making. Decision makers, at least in part, may base their decisions on similarity to past experiences.³³ Subjects' responses indicated that the results of past experiences may be expected in the future if decisions are made under relative similarity.³⁴ Case-Based Decision Theory suggests that individuals place value in linking to past experiences when making decisions.

In applying Case-Based Decision Theory to the vignette presented at the beginning of this chapter, the commander chooses a course of action based on success that was achieved under similar situations in the past. He may decide to leave the platoon in contact, with assistance from the remainder of the company, while he continues forward with the remainder of the battalion to the line of departure. This decision may be the result of his knowing that the company in the past consistently managed to fight its way out of tight situations.

Literature pertaining to the value of judgment in decision making provides added insight about the role of experience in decision making. Ronald J. Ebert and Terence R. Mitchell, in Organizational Decision Processes, indicate that the human judgment process results in conclusions that are reflective of antecedent cognitive activities and one's individual experiences.³⁵ Current theories on decision making indicate that decision makers rely on judgment when making decisions, even when there is an abundance of quality data available.³⁶ There may be many reasons why a decision maker chooses to ignore information that may, in fact, be useful. Douglas N. Dickson, author of Using Logical Techniques for Making Better Decisions adds that decision makers may rely on judgment to solve complex problems:

The human mind has limited information handling capability and simplifies the complex fabric of the environment into workable conceptions. The reasonableness of the simplification is a matter of judgment.³⁷

This would suggest that intuitive or holistic qualities play a role in decision making. The point that judgment plays a role in decision making, even when quantitative analysis is available, is articulated well by F.D. Rigby (1964):

It must be relatively rare for the decision maker to have the opportunity to apply a rigorous statistical or other quality test to his information in a decision situation. If so, the decision maker must still make quality judgments. Determining what is good evidence, internal consistency, and reputation of source, are all in the judgment category.³⁸

In addition to judgment and experience, the speed a decision is made has an effect on the quality of a decision. A study found that the speed in which decisions are made is related to the confidence a decision maker has about making decisions. The study linked the pace in which decisions are made with the quality of decisions.³⁹

In another study, a positive correlation was found linking speedy decisions with the decision-maker's ability to act confidently.⁴⁰ Thus, the confidence of decision makers, the speed in which decisions are made, and performance of organizations may all be related.⁴¹ This evidence is

consistent with current combat decision theory, discussed earlier, suggesting that the ability of the commander to stay ahead of the enemy decision cycle by making faster decisions results in a distinct advantage over the enemy.

The battalion commander in the vignette, presented at the beginning of this chapter, is under pressure to quickly make a decision so that his battalion can continue with the planned operation. Failure to make a sound decision quickly may result in the brigade altering the plan, or at worst case, failing its mission. The battalion commander might want to improve his situational awareness by either receiving input from his staff or the company commander closest to the enemy contact prior to making a decision. However, consultation, should it be pursued, takes time. The time it takes to formulate a clear picture may prevent him from making a decision soon enough. The battalion commander may have to make a decision on the spot to prevent a bad situation from becoming worse.

Decision theory literature, provided in this chapter, reveals several qualities contributing to combat decision making. Speedier decisions are important in retaining initiative and staying ahead of the enemy's decision cycle. The ability to process quick decisions, as described in TOTE Theory, depends on the experience the decision maker has in solving problems of a similar nature and complexity. Judgment and intuition have been found to be key ingredients in decision making, even when an abundance of information is available. The ability to process and analyze information quickly may be limited requiring the need of the decision maker to simplify the parameters of the situation and make judgments regarding the information he has available. Applying Utility Theory, the decision maker relies on information available at the moment without regard to experiences in the past. In doing this the decision maker formulates expectations about the choices available. In applying Case-Based Decision Theory, the decision maker relies on expectations that are formulated from similar experiences in the past.

Experience

There are many accepted definitions of learning and experience. Experience is the entire constellation of sensory, affective and cognitive events observed by a person at a given time or place.⁴² Learning is defined as:

The process by which an activity originates or is changed through reacting to an encountered situation, provided that the characteristics of the change in activity cannot be explained on the basis for native response tendencies, maturation, or temporary states of the organism.⁴³

Experiential Learning Theory breaks down the learning process into four categories: concrete experience, reflective observation, abstract conceptualization, and active experimentation.⁴⁴

Concrete experience and active experimentation include experiences that directly involve problem solving actions taken to overcome difficulties. Reflective observation and abstract conceptualization involve experience gained from gathered information and general concepts. The latter processes are mostly linked to academic learning, whereas the former are linked to hands-on, trial and error types of experiences. Research suggests that a balance of all types of learning improves the decision-making process.⁴⁵ However, concrete experiences, balanced with active experimentation experiences, have been found to be the primary contributors to the decision maker's ability to grasp the reality of a situation and to implement actions achieving a desired state.⁴⁶

Prior to becoming a battalion commander, an officer gains experience through all four of the types of learning listed above.⁴⁷ Operational assignments account for both concrete- and active experimentation-types of learning experiences. Reflective observation occurs when officers attend institutional training schools such as the Officer Basic Course and the Command and General Staff Officer Course (CGSOC). Reflective observation also occurs as officers perform duties in assignments far removed from their primary occupational specialty. This type of experience includes assignments in recruiting and high level staff positions.

Literature about the impact of experience on leader decision-making performance is documented by Dr. Fred Fielder. In his analysis of the effect of experience on leader performance, Fielder argues that experience is psychological rather than a physical variable.⁴⁸ This is due to the observation that everyone learns differently from their particular experiences. One leader may learn bad habits while another may grasp things appropriately and rely on those experiences later. When determining one's ability to accomplish a task, experience is often weighed heavily when seen as relevant to the technical difficulty of the task.⁴⁹ Fielder suggests experience is likely to affect leaders by providing useful job-related knowledge, enhancing the ability to cope with stressful conditions, and engendering a feeling of greater self-confidence and control of the leadership situation.⁵⁰ Under certain conditions, organizational tenure or experience contributes to effective leadership or decision performance.⁵¹

Fielder states that diversity in job-related experiences enables higher performance when moving into a position of increased responsibility.⁵² Fielder's research suggests that experience is especially prized in organizations that must be prepared to deal with emergencies. The need for experience in these organizations is critical to deal with the stress of an unpredictable situation.⁵³ He specifically notes that fire fighters, the military, and pilots fit this category. According to Fielder, there is a need for leadership experience and seniority to deal with situations that are complex and uncertain because experience enables better decision making in critical, immediate situations like combat decision making.

Bernard M. Bass's work on the intelligence and experience of the leader provides additional insights about the value of leader experience. He indicates that experience in leaders is not critical unless perceived stress is high.⁵⁴ Under stressful conditions, the quality of plans, decisions and ideas is correlated more highly with the leader's experience than with his or her intelligence.⁵⁵ In combining Fielder's research with his own, Bass found that highly intelligent

leaders focus on details that are not directly relevant to solving the task and tend to rely more on intellectual solutions to tasks when, in fact, the task may not be amenable to intellectual solutions.⁵⁶

Bass points out that in groups who have time to slowly arrive at problem solving solutions, intelligent members contribute most in the process. The research supports the idea that those who have the most experience are depended upon to make the best short-term decisions.⁵⁷

The significance of both Fielder's and Bass's research is clear when applied to understanding battlefield situations faced by the battalion commander, as in the case of the vignette. Their findings suggest that the amount of a battalion commander's experience will contribute to his ability to make sound and confident decisions. Where uncertainty is high, and time is short, as in the combat decision-making process, experience plays a larger role in the decision maker's process than under less stressful conditions.

Another perspective, specifically tailored to military decision making, is outlined by William A. Reitzel in Background to Decision Making.⁵⁸ In this book, the author states that decision-making abilities are developed through learning and understanding. He states that there are two ways of learning: by repetition and by understanding. Learning by repetition will produce a decision maker that is quite capable of producing good decisions under similar conditions, but who may falter as the conditions and situation change. Learning by understanding, on the other hand, enables the decision maker to apply relative parts of past experiences to a new situation. Understanding is grasping the meanings of components within a situation and determining the relation to each other, aware of their possible place in a higher context.⁵⁹ Understanding moves away from both reflexed and indoctrinated learned responses into the realm of professional judgment based on experience. Superior decisions occur when one understands the value of relative experience to new situations. This notion is captured nicely in the following quote:

For the competent military commander, the power to envisage solutions is so much grounded in experience that appropriate suggestions are most likely to occur; in fact, discriminating thought with respect to military problems is natural.⁶⁰

In applying this perspective to the vignette presented at the beginning of the chapter, the battalion commander may have an abundance of tactical experience. However, if he fails to appropriately apply and relate how that experience is of value in the current situation, then experience, alone, is of limited value to the decision. Understanding how lessons gained from past experiences may be applied to new situations is the fundamental significance of experience. The battalion commander may have experienced a situation similar in the past; however, under the past conditions perhaps he was simply executing orders given to him from his brigade commander. In accordance with the principles of this theory, unless he understood his reasoning for decisions under similar circumstances, his level of understanding through learning would have not been developed. This perspective does not devalue the need for experience in sound decision making. It simply states that experience, without understanding how it is relevant to new situations, limits its contribution to decision making.

In Management Decisions and Behavior, Paul S. Greenlaw and Max D. Richards argue that confidence in decision making comes from experience-based personalistic methods; that is, personal, self-proven methods based on past experience that produce intended results.⁶¹ They state that rapid decisions are often required without the luxury of complex, time consuming, scientifically-based data.⁶² Greenlaw and Richards state that experience-based decisions have limitations. Each decision maker's background is limited and his previous experience may not provide an adequate sample upon which to base current decisions.⁶³ According Greenlaw and Richards, the value of experience-based decisions only goes as far as the decision maker perceives relevance of the past to the current situation. The extent of experiential value lies in avoiding over-

generalizing from past experiences and accurately identifying how the key variables in the new decision situation are similar to, or are different from those previously encountered.⁶⁴

Greenlaw and Richards' viewpoint echoes that of Reitzel in limiting the value of experience. Both theories indicate that experience is of great value when properly related to new situations, and that this occurs through deeper learned understanding and not over-generalizing. Greenlaw and Richards, however, take this a step further suggesting that the ability to make speedy decisions, when thorough analysis is unavailable, lies more heavily in one's personalistic methods based on experience.⁶⁵

The role experience plays in decision making is significant. Fielder's research states that confidence to make decisions when uncertainty and stress is high is derived from job experience and tenure. Fielder's research finds that leadership experience is essential in organizations that face emergency and crisis situations. Experiential Learning Theory explains that concrete and active experimentation type experience is linked to the ability to quickly assess the reality of a situation and implement actions. Reitzel outlines the critical value of experience in decision making by placing emphasis on understanding how experience is applicable to a new situation. This point is echoed by Greenlaw and Richards, who explain that experience is important in decision making so long as over-generalizing from one situation to another is avoided.

Confidence in Decision Making

Self-confidence is a complex concept, and is defined in various ways: "how individuals perceive their ability to succeed at a particular endeavor, or judge their effectiveness once a task is finished,"⁶⁶ or as one's commitment to trust his own judgment.⁶⁷ Recent evidence suggests that in environments of uncertainty, where the risks are high, a lack of self-confidence will usually result in avoiding or prolonging the decision process. Furthermore, low levels of self-confidence usually

produce safe, but not necessarily the best alternatives.⁶⁸ This finding is supported by additional research demonstrating that subjects who are led to believe they are very competent at decision making see more opportunities in a risky choice and take more risks.⁶⁹ Likewise, those subjects that are led to believe that they are not very competent see more threats and take fewer risks. Noted by the study was that individuals with high levels of self-confidence tend to envision successful opportunities in risky situations, whereas individuals with low levels of self-confidence tend to predict opportunity for failures in high risk situations.⁷⁰

Research conducted about the role of confidence in decision making highlights additional attributes of self-confident decision makers. Self-efficacy is the belief in one's ability to produce an effect or accomplish something. Perceived self-efficacy significantly influences aspiration levels, goal commitment, task persistence and work attitudes.⁷¹ Research also demonstrates that confident leaders produce positive work environments suggesting that worker performance also improves. The study also suggests that those high in perceived self-efficacy take greater risk due to the confidence they have in their ability to control a situation with their skill. Research supports the finding that experience is not a critical factor in developing self-confidence; however, the value of experience is regarded as essential when decisions are made in new environments, under new situational circumstances.⁷² This finding coincides with Fielder's and Bass's research indicating that leadership experience is important under new and uncertain conditions.

This literature suggests that experience contributes to confidence about decision making in new environments. In addition, confident decision makers are less likely to avoid decisions when risks are high. This suggests, perhaps, that confidence in decision making develops over time through experience. Confidence is defined as the trust one has in his own judgment which logically comes from successful applications of judgment applied during past experiences.

These findings are of particularly significant value to this study. When applied to the commander in the vignette, a lack of confidence in making a decision may result in lost time. It may also prevent the commander from visualizing possible solutions. If the battalion commander is too concerned about the risks related to possible options available, he may end up not accomplishing his mission. Perhaps confidence in decision making corresponds to the amount of information the commander needs to feel comfortable about making a decision. Collecting the facts, gathering suggestions, deciphering conflicting reports, and the anxiety that often occurs when confusion sets in all contribute to lost time and a bad situation possibly getting worse. It is often in just these circumstances that the commander must make decisions, issue orders, and provide guidance that is clear, understood and sensible. It is clear from the literature, that confidence about decision making and experience contribute to a leader's ability of making rapid decisions under stressful conditions.

Intuition is the "ability to learn or draw upon experience, rather than an innate cognitive complexity or discretionary ability."⁷³ Additional research aimed at determining the qualities affecting the pace of corporate decision making finds that confidence to act (make a decision) is also tied to the decision maker's use of intuition.⁷⁴ The study augments other findings suggesting that the pace of strategic decision making is positively correlated with organizational performance. The findings suggest that decision makers who can intuitively conceptualize the components of a situation quickly are more confident in making a decision faster rather than relying on more formal analysis that extends the time required to make a decision.⁷⁵

Reflecting back to the vignette, this research suggests that the maneuver battalion commander relies on his use of intuition to quickly grasp the key components of the situation and act confidently in making a decision. The commander may intuitively feel that he must immediately break contact with the remainder of his force, thereby preserving his combat power for

the brigade attack. This would be a direct reflection of his experience. Under the circumstances, the battalion commander would intuitively assess the terrain, enemy, quality and capability of his force in contact, and the time-distance relationship required for repositioning; a feel that results from experience.

Summary

On the battlefield, the maneuver battalion commander must apply the combat decision-making process to cope with change and capitalize on opportunity. The battlefield is an ever-changing environment of danger, and great uncertainty. Risks are involved in every decision. Information is likely inaccurate, incomplete, and often irrelevant to the commander's needs to solve the problems he faces. Literature indicates that under these conditions the commander will rely mostly on his judgment and experience to act confidently.⁷⁶

Taken together, literature about decision theory, experience, and confidence enables hypotheses about the research question. Evidence indicates that experienced decision makers rely more heavily on intuition enabling speedier decisions. The speed in which decisions are made was found to be positively related to the success of decisions within high velocity environments where uncertainty was high and time was critical.⁷⁷

Self-confidence is the commitment to one's own judgment, and is thought to be a quality of particular value in decision making when conditions of uncertainty and risk are high. Furthermore, those with perceived high self-efficacy are thought to be more goal oriented and committed to the success of the organization.⁷⁸ Research indicates that experience is important in the development of self-confidence in environments that are unfamiliar.

The literature also suggests that experiential learning is linked to the ability to recognize and implement solutions to problems and that repeated success improves the ability of the decision

maker to solve more complex problems.⁷⁹ The Theory of Union of Rationality and Intuition provides an explanation for how the decision maker goes from analysis of information to making a decision suggesting that both rationality and intuition may be mutually dependent.⁸⁰ This theory suggests that to know something requires a rational approach and that to understand requires an intuitive approach. Both processes likely combine during the decision process.

The Hypotheses

Distilling all related information from theory and research leads to the following hypotheses: (1) a positive relationship exists between the level of confidence that combat arms officers have about making tactical decisions and their amount of concrete experience, and (2) a positive relationship between experience and confidence is enhanced by combining concrete- and active experimentation-type experience.

If the results of this research support the hypotheses such that confidence levels of officers are positively related with their amount of experiential learning, then this may provide a basis for enhancing officer management to increase both concrete- and active experimentation-type experiences for maneuver battalion commanders. Furthermore, this may suggest that further research is needed to determine how decision making failures observed at the CTCs are associated with the amount of experience maneuver battalion commanders have who train there.

Assumptions

In order to carry out this research, the following assumptions were made:

1. Infantry and armor officers at the Command and General Staff Officer Course represent a group of officers likely to be selected to be maneuver battalion commanders.
2. That confidence is measurable.
3. That tactical experience and confidence of CGSOC officers can be accurately measured.

4. That subjects can be inspired to project themselves into the role as a maneuver battalion commander.

5. That the survey questionnaire is answered honestly by the body of combat arms officers surveyed.

¹David Hume, The Philosophy of David Hume, ed. V. C. Hill (New York: Random House, 1963), 334.

²Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret, (Princeton, NJ: Princeton University Press, 1976), 121.

³Center For Army Lesson Learned, Tactical Decision Making, (Ft. Leavenworth, KS: December 1995), 1-3.

⁴U.S. Army, ST 101-5, The Tactical Decision Making Process, (Fort Leavenworth, KS: U.S. Army Command and General Staff College, February 1996), 1-5.

⁵Ibid., 1-7.

⁶Ibid.

⁷Center For Army Lesson Learned, Tactical Decision Making, iv-1.

⁸ST 101-5, 1-2.

⁹Ibid., 1-7.

¹⁰U.S. Naval Publication No. 6, Naval Command and Control, (Headquarters, Department of the Navy, Washington, DC: May 1995), 18.

¹¹Ronald J. Ebert and Terence R. Mitchell, Organizational Decision Process (New York: Crane, Russak and Company, 1975), 17.

¹²Ibid., 18.

¹³Ibid., 19.

¹⁴Ibid., 22.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

¹⁸Ibid., 21.

¹⁹Ibid.

²⁰ST 101-5, The Tactical Decision Making Process, 1-2.

²¹Suresh Srivasta, The Executive Mind, (San Francisco: Jossey-Bass Publishers, 1983), 169.

²²Ibid., 172.

²³Ibid.

²⁴Ibid.

²⁵Ibid., 173.

²⁶ST 101-5, 1-10.

²⁷Douglas N. Dickson, editor, Using Logical Techniques For Making Better Decisions, New York: Wiley and Sons, 1983), 75.

²⁸Paul E. Moody, Decision Making, (New York: McGrawhill Book Co., 1983), 147.

²⁹Ibid., 78.

³⁰Itzhak Gilboa and David Schmeidler, "Cased-Based Decision Theory," The Quarterly Journal of Economics (August 1995): 606.

³¹Ibid., 608.

³²Ibid.

³³Ibid., 620.

³⁴Ibid., 625.

³⁵Ebert and Mitchell, 100.

³⁶Dickson, 82.

³⁷Ibid.

³⁸M. W. Shelly and G.L. Bryan ed., Human Judgments and Optimality (New York: John Wiley and Sons, 1964), 42.

³⁹Robert J. Baum and Stefan Wally, "Personal and Structural Determinants of the Pace of Strategic Decision Making," Academy of Management Journal 37 (August 1994): 937.

⁴⁰*Ibid.*, 545.

⁴¹*Ibid.*

⁴²Srivasta, 251.

⁴³Gordon H. Bower and Ernest R. Hilgard, Theories of Learning, (Englewood Cliffs, NJ: Prentice Hall, 1984), 11.

⁴⁴David A. Kolb, Irwin M. Rubin and Joyce S. Osland, The Organizational Behavior Reader, (Englewood Cliffs, NJ: Prentice Hall, 1991), 69.

⁴⁵Srivasta, 112.

⁴⁶*Ibid.*, 112.

⁴⁷U.S. Army, DA Pam 600-3, Commissioned Officer Development and Career Management, (Washington, DC: Department of the Army, June 1995), chap. 2, p. 1; notes throughout chapter 2 used to formulate ideas.

⁴⁸Fred Fielder, New Approaches To Effective Leadership, (New York: John Wiley and Sons, 1987), 32.

⁴⁹*Ibid.*

⁵⁰*Ibid.*

⁵¹*Ibid.*, 41.

⁵²*Ibid.*, 37.

⁵³*Ibid.*, 41.

⁵⁴Bernard M. Bass and Ralph M. Stogdill, Handbook of Leadership, (New York: The Free Press, 1990), 651.

⁵⁵*Ibid.*

⁵⁶*Ibid.*, 652.

⁵⁷*Ibid.*, 651.

⁵⁸William A. Reitzel, Background to Decision Making, (U.S. Naval War College: June 1958), V. 9.

⁵⁹Ibid., 10.

⁶⁰Ibid., 11.

⁶¹Paul S. Greenlaw and Max D. Richards, Management Decisions and Behavior, (Homewood, IL: Irwin-Dorsey, 1972), 59.

⁶²Ibid.

⁶³Ibid.

⁶⁴Ibid.

⁶⁵Ibid.

⁶⁶Michael A. Hitt and Duane R. Ireland, "Self-Confidence and Decisiveness," Business Horizons (February 1992): 36.

⁶⁷Ibid.

⁶⁸Peter R. Dickson, and Norris Krueger Jr., "How Believing in Ourselves Increases Risk Taking," Decision Sciences 25 (1995): 386.

⁶⁹Ibid., 387.

⁷⁰Ibid.

⁷¹Ibid., 397.

⁷²Ibid.

⁷³Stefan Wally and Robert Baum, "Personal and Structural Determinants of the Pace of Strategic Decision Making," Academy of Management Journal 37 (August 1994): 935.

⁷⁴Ibid., 947.

⁷⁵Ibid.

⁷⁶Greenlaw and Richards, 59.

⁷⁷Walley and Baum, "Personal and Structural Determinants of the Pace of Strategic Decision Making:" 932.

⁷⁸Dickson and Krueger, 386.

⁷⁹Ebert and Mitchell, 20.

⁸⁰Srivasta, 169.

CHAPTER 3

RESEARCH METHODOLOGY

General

The hypotheses were tested by examining the extent of statistical correlation between two principle variables: experience and confidence about decision making. This enables insight about the relationship between the amount and type of one's tactical experience and his confidence in making combat decisions (Hypothesis One). By further refining experiences into two distinct types, concrete experience and active experimentation, insight about the extent to which active experimentation strengthens this relationship was made possible (Hypothesis Two). The entire population of armor and infantry branch officers attending the resident Command and General Staff Officer Course (CGSOC, 1996-97) received an eight page survey instrument, separated into four parts. This instrument represented the sole basis for testing the hypotheses.

Subjects

The sample was one of convenience and consisted of all armor and infantry officers attending the Army's resident CGSOC during Academic Year 1996-97. Due to the sampling of all infantry and armor officers, randomization was not required. A pilot survey was conducted to ensure completeness and clarity of the instrument. The sample is representative of Army officers that will be considered for and selected to be maneuver battalion commanders. The sample excluded international officers because their diverse systems of officer assignments would not enable the valid measurement of experience. The sample inherently excluded female participation

since they are not permitted to serve in either armor or infantry branches. Aviation officers were excluded because their combat decision-making experience and problem solving situations are uniquely different from the ground gaining maneuver arms. All other Army branches were excluded from participation because they do not fit the criteria as being potential maneuver battalion commanders. Anonymity was assured, and participation was voluntary.

Instrument

The instrument combined questions aimed at measuring experience in months, and by type, and one's confidence about combat decision making.¹ Internal reliability was enhanced by applying reversed scoring to several questions relating to confidence (Part III of the survey). Confidence was measured in three different domains: offensive, defensive and operations other than war (OOTW). The survey included four parts designed to accomplish the following: capture descriptive/demographic data (Part I), measure specific experiences (by type) in months (Part II), assess confidence about combat decision making (Part III), and included several validity checks to ensure to the extent possible, that confidence was accurately measured (Part IV). The following sections describe the variables involved and include descriptions of how each were measured by the instrument. The published instrument used in this study is located in Appendix B (Survey Instrument).

Predictor Variables

Hypothesis testing required measurement of two primary variables: experience and confidence about decision making. Concrete experience is the amount of time in months an officer has served in tactical positions. In the context of this research, concrete experience is practical, hands-on learning, where consistent exposure to, or participation in battalion-level combat decision making occurs. Specific to Hypothesis Two is also active experimentation, another form of

experience. Active experimentation, for this research is defined as experience where exposure to battalion-level combat decision making may occur, but participation is minimal. These variables were operationalized by applying insight gained from Experiential Learning Theory.²

Insights gained from the literature review were augmented by interviews conducted with four pilot sample subjects who assisted in developing criteria for coding concrete- and active experimentation-types of experience. These interviews were conducted after the subjects completed the pilot survey. Concrete experience represents the highest level of learning about battalion-level combat decision making. Officer assignments that meet these criteria must expose the officer to, or enable direct participation in, the maneuver battalion commander's combat decision-making process. As a consequence of the interviews conducted with four combat arms officers attending CGSOC, the following criteria of "concrete experience" for a potential maneuver battalion commander was developed.

Concrete Experience

The scout platoon leader of a maneuver or light infantry battalion leads a platoon that serves as the eyes and ears of the battalion. He supports the commander's concept of the operation by providing information that is critical to the battalion commander's combat decision-making process. The experience gained by the scout platoon leader is unique to battalion-level combat decision making for he is instrumental in supporting the information requirements of the commander. Furthermore, he must understand the maneuver battalion commander's concept of maneuver and provide cues that support him in the decision-making process. Information that the scout platoon leader provides to the battalion commander may include location of the enemy main effort, location of enemy command and control nodes, enemy artillery locations, enemy obstacle and defensive locations, and confirmation of the intelligence officer's (S2s) enemy situational

template. The scout platoon leader executes battalion-level reconnaissance and surveillance plans that support the battalion-level scheme of maneuver. For these reasons, the type of experience gained by the scout platoon leader is reflective of concrete experience for a potential maneuver battalion commander.

The company or troop commander of a maneuver battalion contributes directly to the battalion commander's combat decision-making process. He is usually in a position to execute decisions made by the commander and may even provide vital recommendations to the commander in the process. The company commander is often exposed to many aspects of the same situation as the battalion commander. The company commander leads his company in support of the battalion commander's scheme of maneuver and deviates from it as the maneuver battalion commander directs, or in accordance with his intent. The company commander is very close to the combat activities of the battalion and experiences many of the uncertainties associated with combat decision making at the company-level. Company or troop command experience meets the criteria of being concrete experience for a potential maneuver battalion commander.

The battalion training and operations officer (S3) is closely integrated into battalion-level combat decision making. The battalion S3 develops the deliberate plan or operations order, and once hostilities commence, assists the commander in making combat decisions. He positions himself near the forward edge of the battle to provide his interpretation of events to the commander to assist in his analysis of the situation. The battalion S3 is exposed to many of the same variables as the battalion commander. In the absence of the battalion commander, the S3 is prepared to maneuver the battalion during combat operations. S3 experience in an armored or infantry battalion meets the criteria of being concrete experience for a potential maneuver battalion commander.

The battalion executive officer (XO) is an integral part of the battalion commander's decision-making process. He usually positions himself in the battalion tactical operations command post where he tracks the current battle and anticipates requirements for future operations. He closely monitors the actions and activities of the current fight so that he is able to command the battalion in the event the battalion commander is no longer capable. Although further removed from combat decisions than the S3 perhaps, experience gained under these conditions meets the criteria of being concrete experience for a potential maneuver battalion commander.

Observer controllers (OCs) at the Combat Training Centers are in the unique position to observe and evaluate the combat decisions of the maneuver battalion commander. Concrete experience, however, is limited to those OCs assigned primarily to observe the actions of the battalion XO, battalion S3, company commander, S3-Air, and the scout platoon leader. OCs assigned to these positions may have a better understanding of the maneuver battalion situation. They are in a unique position for they are exposed repeatedly to combat decisions made by many different battalion commanders, under many different situations. Although they are not contributing to, or executing decisions, they are charged with providing feedback to the process. OCs assigned to these specific positions are exposed directly to the problems facing the battalion commander in combat decision making. Experience gained as an OC in these positions meets the criteria of being concrete experience for a potential maneuver battalion commander.

The S3-Air officer, or battalion battle-captain, assigned to the infantry or armor battalion is directly exposed to battalion-level combat decision making. The S3-Air usually assists the S3 during the deliberate planning process and assists in the execution of combat decision making. He is responsible to the commander for tracking battlefield events and disseminating critical information to all units within the battalion. The commander depends on the battalion S3-Air for

information during combat decision making. The S3-Air is often responsible for keeping the higher commander abreast of the tactical situation and often acts as the link between the battalion commander and the brigade commander in disseminating information. The S3-Air is directly exposed to and contributes to the combat decision-making process. Experience gained serving as an S3-Air fits the criteria for being a concrete experience.

The Ranger Battalion Liaison Officer (LNO) is consistently exposed to battalion-level combat decision making. The Ranger Battalion is unique in that battalions within the Regiment are separated by great distances from each other and from their regimental headquarters. The ranger battalion LNO serves as the conduit between the battalion and the regiment in disseminating information. The LNO stays abreast of the battalion tactical situation and tracks events as they unfold. For this reason an LNO serving in ranger battalions gains experience that meets the criteria for being a concrete experience for a potential maneuver battalion commander.

Active Experimentation

The second independent variable, active experimentation, includes experience where officers are not consistently exposed to the maneuver battalion commander's combat decision making and are not directly involved in the process. This category of experience is close to, but not equal to the quality of concrete experience. Officers with assignments that fall into this category are not receiving the opportunity of first hand, practical experience in performing combat decision making. Active experimentation was measured in terms of the amount of time in months an officer served in the following positions:

Experience gained by serving in primary and special staff positions, within an armor or infantry battalion meets the criteria as being active experimentation. Battalion-level primary and special staff positions are somewhat exposed to battalion-level combat decisions and are, at times,

directly exposed to the process. Their duties and responsibilities, however, leave them more concerned with activities within their specific areas, and as such, reduce their learning about, and exposure to the maneuver battalion commander's combat decision making.

Experience gained by serving in platoon leader positions within maneuver battalions meets the criteria as being active experimentation. Platoon leaders execute the plans and orders of either the battalion commander or their company commanders. Their scope is limited to leading their platoons and solving problems on a smaller scale. Platoon leaders are, however, exposed somewhat to battalion-level combat decision making.

Brigade-level assistant operations and training officers (BDE assistant S3s) are not consistently exposed to battalion-level combat decision making, but are in a position to receive some exposure. Brigade assistant S3s are the battle captains for the brigade commander and are responsible for disseminating information down to the battalion commanders and likewise, up to the brigade commander. Although somewhat removed from the forward edge of the battle area, the brigade assistant S3 must monitor developments and track battlefield activities at the brigade-level. His exposure to battalion-level combat decision making is such that it meets the criteria as being active experimentation-type experience.

Experience gained by serving as an observer controller (OC) at one of the nation's Combat Training Centers (CTCs) in battalion and brigade-level positions meets the criteria as being active experimentation-type experience. Observer controllers in a position to monitor maneuver battalion operations are directly exposed to battalion-level combat decision making, however, are not close enough to gain concrete experience. These positions include: platoon OC, tactical and operations command post OC (not assigned to S3, XO or S3-Air), primary staff OC and specialty staff OC. OCs in a position to evaluate officers in these positions repeatedly observe battalion-level operations, and must track battlefield activities to evaluate officers in these positions. OCs

serving in these positions meet the criteria of gaining experience associated with active experimentation.

Officers assigned as an active component advisor or evaluator to a reserve component armor or infantry battalion gain experience associated with active experimentation. Combat arms officers serving as advisors to infantry or armor battalions are responsible for assisting, advising and training reserve component battalions for combat operations. Officers assigned to these positions directly assist the maneuver battalion commander in all areas of decision making. Although reserve and national guard battalions are limited in scope and ability to conduct battalion-level maneuver training, officers assigned to these positions do have some exposure to battalion-level combat decision making.

Experience gained serving as a reserve component advisor assigned to a reserve or national guard infantry or armor battalion also meets the criteria as being active experimentation. Reserve component advisors assist the maneuver battalion commander during maneuver operations and even in the combat decision making process. However, due to the limited ability of national guard and reserve battalions to conduct full scale maneuver training (annually), this assignment experience meets the criteria of active experimentation type experience.

Experience gained as a small group instructors at the armor and infantry advance schools also meets the criteria for experience relating to active experimentation. Officers assigned to these positions hone their tactical skills by facilitating the advance course students development of battalion-level tactical plans. Small group instructors remain current in the development of doctrine and tactics at a point in their career when many of their peers are performing duties that are very far removed from combat decision making. Although small group instructors are not directly exposed to combat decision making, they are sustaining tactical skills that enable them to

plan and synchronize battalion-level maneuver operations. Due to the unique quality of this experience small group instructors meet the criteria as being active experimentation.

Given these criteria to code experience types, Part II of the survey enabled subjects to list their experiences. Part II consisted of thirteen questions designed to record and measure specific information regarding officer experiences. The questions asked officers to list each assignment that they served in up to the point when they attended CGSOC. The questions asked specific information about platoon-level experience, company command and staff assignments and graduated up to the highest-level Army assignments. Officers were asked to record the duty title, time served in months, and type of unit for each assignment he had had. In addition to assignments, officers recorded number of rotations to NTC/CMTC/JRTC and deployments relating to both contingencies, training, and combat. The instrument also recorded Army and civilian schools that officers attended. Experience listed in this manner was then categorized by type, and the total number of months of experience summed by type of experience. Recording an officer's experience by assignment and duration enabled further examination of other possible relationships between specific experiences (CG Aide, Ranger Bn affiliation, etc.) and confidence. For instance, company command type and duration were isolated and correlated with confidence to determine if a relationship existed. By categorically asking questions in this manner, seventeen separate relationships were examined and will be further explained in Chapter 4.

Confidence

"Confidence" was a principle correlate in testing the two hypotheses. It was measured in Part III of the survey instrument. Confidence, as defined in Chapter 2, is "how individuals perceive their ability to succeed at a particular endeavor, or judge their effectiveness once a task is finished."³ Part III of the survey instrument measured the confidence officers have in making

combat decisions when placed in the role as a battalion commander. Part III consisted of three battalion-level tactical vignettes that required a solution to the problem be chosen. Each of the three vignettes were distinctly different and required the subject to make a decision with limited information and under conditions of uncertainty. The scenarios included a battalion attack, a battalion defense, and an operation other than war (OOTW). Selection of these scenarios provided sufficient range and variance of conditions to enable reliability testing. After making a decision to solve the tactical scenario, subjects were asked about their confidence in the decision they made. A six-point likert scale was used to measure confidence about implementing one of four possible choices: (1) not at all confident, (2) slightly confident/very unsure, (3) somewhat confident, but unsure, (4) pretty confident, but unsure, (5) very confident, but not entirely sure, and (6) totally confident. The subject then answered three additional questions that asked: "To what extent would you need your staff's input to make the decision," "To what extent would you need to get a second opinion prior to making a decision," and "To what extent have you been in a situation like this before?" These questions were asked to determine the extent to which other factors, besides concrete- and active experimentation-type experience, may be related with confidence about combat decision making. Measurement of these questions were obtained using a six-point likert scale as follows: (1) no input needed, (2) very little input needed, (3) would consider staff input, (4) would seek staff input, (5) need staff input, and (6) would a make decision only with staff input.

Categorical/Demographic Variables

Part I of the survey instrument consisted of 13 questions recording categorical, descriptive and demographic data: branch, functional area, source of commission, officer age, rank, time in service, time in grade, education level, prior enlisted service, desire to be a battalion commander,

perceived likelihood of becoming a battalion commander, and amount of time since last tactical experience. Categorical variables were isolated to enable further examination of possible relationships mediating the experience-confidence correlation. Additionally, categorical variables enabled examination of relationships between several officer characteristics and confidence about combat decision making.

The "perceived likelihood and desire to be a battalion commander" was selected as a categorical variable to determine if there is a positive relationship between one's perceived likelihood to be selected and desire to become a battalion commander, and his confidence about combat decision making.

Officer "branch," whether infantry or armor, was examined to determine if there might be a relationship between an officer's branch and confidence about combat decision making. This variable was selected because it is not uncommon for infantry and armor officers to have wide variances in types of tactical maneuver experiences.

The officer's "age," "time-in-grade" and "time-in-service" were also examined to determine if there is a relationship between an officer's maturity or tenure, and confidence about combat decision making.

The amount of "company or troop command experience" was specifically examined to determine if there was a relationship between this type of experience and confidence about tactical decision making. Company command experience is unique in comparison to other concrete experiences because commanders shoulder larger amounts of responsibility. Examination of this variable may indicate, perhaps, that there is a relationship between experience in positions of greater responsibility and confidence about combat decision making.

"Recency" of an officer's last tactical experience was examined to determine if there is a relationship between the amount of time between the officer's last tactical experience and his

confidence about combat decision making. This variable was selected to determine if periods spent away from tactical assignments have an adverse effect on confidence.

“CTC rotational experience” was examined to determine if there is a relationship between this unique type of experience and confidence about combat decision making. CTC rotational experience accounts for experience where training conditions most emulate the battlefield environment.

“Functional area designation” was selected as a categorical variable due to the difference in experiences associated with officer specialties. Functional area also included designation of “Acquisition Corps,” if it applied. Acquisition Corps officers that were initially branched into infantry or armor fall into this category.

“Prior enlisted experience” accounts for additional experience not captured within the other measures and served as an additional measurement of unique experience.

More about Validity

Part IV of the survey instrument was aimed at measuring the face validity of the instrument. Officers answered two questions that asked about the realism of each scenario and their ability to place themselves in the role as the battalion commander. These questions asked: “How realistic are these three scenarios to situations you might encounter someday as a battalion commander?” and “To what extent were you able to put yourself in the role as the battalion commander in each of the scenarios?” Each of these questions were measured using a six-point likert scale ranging from: “Not at all realistic” to “Very realistic,” and “Very uneasy” to “Extremely comfortable.” By measuring subjects’ feedback with these questions, information could be gathered regarding the subjects’ “believability” and “realism” of the questions. Answers to both of these questions provide evidence that the scenario and the subjects’ responses are valid.

¹Steven M. Jones, "The Impact of Command Likelihood on Commitment" (Master of Military Art and Science Thesis, Command and General Staff College, 1990), 123; Format and general approach to memorandum used in development of instrument.

²David A. Kolb, Irwin M. Rubin and Joyce S. Osland, The Organizational Behavior Reader (Englewood Cliffs, NJ: Prentice Hall, 1991), 69.

³Duane R. Ireland, Michael A. Hitt, and Clifton Williams, "Self-Confidence and Decisiveness, Business Horizons, (January-February, 1992): 36.

CHAPTER 4

RESULTS

The purpose of this chapter is to present the analysis of data derived from the survey instrument, the sole vehicle used for testing the two hypotheses. Analysis is provided regarding the pilot test and the study-proper. The demographics of the sample are described, as are validity and reliability indicators. The results of hypotheses testing and examination of several categorical variables are provided in statistical detail.

Pilot Test

Once the survey instrument was created, refined, and approved for distribution, a pilot test was conducted. The pilot survey was distributed to twelve Command and General Staff Officers Course (CGSOC) students, all combat arms officers: six infantry and six armor. Their selection was based on convenience to expedite survey refinement. The purpose of the pilot was to ensure clarity in questions and gain initial evidence regarding the validity of the instrument. Results from the pilot indicated that the survey would take between fifteen and twenty minutes to complete. Several comments and corrections to the instrument resulted from the pilot test, as well. Ambiguity in one scenario was corrected by implementing a slight change in word selection. In addition to minor typographical corrections, a question addressing recency of the subject's last tactical experience was added. So few adjustments to the survey following the pilot testing enabled the pilot data to be combined with the data gathered from the study-proper.

Data Collection

The survey instrument was personally delivered to the subjects' classroom boxes with instructions about how to complete and return the instrument. The subjects were given five working days to complete the survey. Three days after distributing the survey, a notice was distributed to remind each subject to return his survey not later than the suspense date. Completed surveys were returned to a classroom that had a box clearly marked for survey turn-in. Anonymity was assured throughout the process.

Demographics

The subjects in the sample included infantry and armor officers attending CGSOC, Class 1996-1997. A total of 112 surveys were distributed to 75 infantry officers and 37 armor officers. Eighty eight subjects completed and returned the surveys resulting in a return rate of 81%. When combining the pilot survey responses (12) to data collected in the primary survey, a total of 100 subjects had responded (n=100). Seventy infantry officers completed the survey accounting for 70% of the total sample. Thirty armor officers completed the survey accounting for 30% of the total sample.

The mean age of the subjects was 35.9 years. Survey results indicated that 14% of the subjects were commissioned from Officer Candidate School (OCS), 61% of the subjects were commissioned from the Reserve Officer Training Corps (ROTC) and 25% of the subjects were commissioned from the United States Military Academy (USMA). All subjects in the sample had a "functional area" (FA) designation in addition to their basic branch affiliation of armor or infantry. The FA designations of the sample included: FA 97 (7%), FA 54 (48%), FA 53 (5%), FA 51 (5%), FA 49 (10%), FA 48 (4%), FA 46 (2%), FA 45 (4%), FA 41 (6%), FA 39 (5%), and FA 11 (4%). A total of 14% of the subjects in the sample indicated that they were redesignated

into the Acquisition Corps (AC) branch. All of the subjects in the sample had achieved the rank of Major. The mean "time-in-service" (TIS) for the sample was 13.6 years. The education level of the sample was measured and 34% of the subjects indicated that they had only a four year "Bachelor of Arts or Science" (BA/BS) Degree. Sixty three percent of the subjects indicated that they had achieved Masters Degrees and 3% indicated that they had earned a Ph.D. Twenty officers served as enlisted members on active duty prior to becoming commissioned officers.

In addition to basic demographics, other information was collected to enable further examination about factors which might mediate the relationship between experience and confidence about making combat decisions. Subjects were asked about their desire to command a maneuver battalion: 80% indicated a desire to "become a battalion commander," 15% stated "they would serve as a battalion commander if accepted" and only 5% of the subjects stated they would "probably turn down the opportunity to serve as a battalion commander." This indicates that, overall, the subjects of the sample had interest in serving as a maneuver battalion commander. This also suggests that the subjects were genuinely interested in serving at the next higher level of command and were willing to accept increasing levels of responsibility. Subjects were asked about what they perceived as their chance of being selected to serve as a battalion commander: 10% of the subjects indicated that their chance of being selected to serve as a battalion commander was a "less than even chance," 51% of the subjects indicated their chance of being selected was a "50-50 toss-up," 31% indicated they had a "better than even chance," and 8% indicated that they would "likely be selected." The vast majority of the subjects clearly believe they have an even, or better chance of being selected to serve as a battalion commander.

Validity

Face validity of the instrument was assessed in Part IV of the survey instrument. Subjects responded to three questions that asked them: "How realistic are these three scenarios to situations you might encounter someday as a battalion commander?" The mean response was 5.0 on a six-point scale. Only one of the one hundred subjects stated that the scenarios were "not realistic" to situations they may encounter someday as a maneuver battalion commander. The percentages of the remainder of the sample were: 9% of the subjects stated that the scenarios were "somewhat realistic," 11% stated that the scenarios were "realistic, but not likely," 62% stated that the scenarios were "realistic" and 17% stated that the scenarios were "very realistic." These responses provide some evidence of face validity. The survey succeeded in placing subjects into a mind-set they perceived to be realistic battalion command-level tactical problems. Subjects were also asked: "To what extent were you able to put yourself in the role as the battalion commander in each of the vignettes?" The mean response was 5.0 on a six-point scale indicating that subjects were "very comfortable" putting themselves in the role as a maneuver battalion commander. The percentage of responses were: 8% stated that they were "only somewhat comfortable" putting themselves in the role as the battalion commander in each scenario, 32% of the subjects stated they were "comfortable," 38% of the subjects stated they were "very comfortable," and 22% of the subjects stated they were "extremely comfortable." Subjects were able to project themselves into both a role and tactical situation essential to assessing confidence in combat decision making from the survey instrument.

The fact that subjects seemed to accept the tactical vignettes as real and were inspired to step into the role as the battalion commander in each case suggests validity of the instrument as related to their individual confidence about making decisions in the contrived tactical settings (vignettes).

Dependent Variable

The measurement of the dependent variable, "confidence," was evaluated by conducting a correlational analysis of all confidence-related answers on the survey. A total of ten confidence answers were imbedded in Parts III and IV of the survey. Recalling from Chapter 3, the questions designed to measure confidence were: (1) How confident are you that your choice is the best decision given the available information (Confidence, Table 1)? (2) To what extent do you need your staff's input to make this decision (Staff, Table 1)? (3) To what extent do you need to get a second opinion prior to implementing this decision (2d Opinion, Table 1)? These three, six-point likert scale questions followed each of the three vignettes. The tenth and final question was imbedded in Part IV of the survey and asked: "Given your experience to date, and experience you expect to have as a battalion S3/XO, how confident are you about your ability to make sound tactical decisions as a maneuver battalion commander if selected for battalion command someday. (Projected Confidence, Table 1)?"

The results of all confidence measures were individually correlated with one another to assess the degree of sameness (see Table 1). A minimum correlation standard of $r = .6$ was established for summing like measures. Summing like measures in this way increases the reliability. Only the first question following each of the three vignettes was found to be significantly correlated with one another (Table 1: C1, C4, C7). A Chronbach Alpha test of reliability for these three confidence measures resulted in $\alpha = .86$, illustrating an acceptable degree of sameness. Given subjects' responses about realism and likelihood and desire of commanding (described in the previous section), the aggregate of these three measures provides both a valid and reliable measure of confidence. It was this summed measure that was applied to all analyses regarding confidence.

Table 1 also shows an absence of correlation among the second, third and tenth questions (C2,C3,C5,C6,C8,C9,C10). It was predicted that these questions may be significantly related to the primary confidence question; however, there was no significant relationship established. This absence of correlation suggests that asking for a second opinion, or for staff input does not relate to one's confidence. Nor does either type of solicitation for assistance correlate with each other. Evidence of little, or no correlation between the results seems to indicate that asking for a second opinion and staff input are situational rather than dispositional. Perhaps answers to these questions are more indicative of one's leadership style than a measurement of one's confidence.

Table 1.--Correlation of Confidence Measures

	n=100		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
	mean	sd.										
<u>Scenario Attack</u>												
C1 (Confidence)	4.82	.96										
C2 (Staff)	4.21	.95	.29									
C3 (2d Opinion)	4.12	1.2	.11	.40								
<u>Scenario Defend</u>												
C4 (Confidence)	4.39	1.2	.71*	.10	-.08							
C5 (Staff)	3.4	1.07	.21	.43	.21	.19						
C6 (2d Opinion)	3.4	1.23	.20	.25	.42	.13	.40					
<u>Scenario OOTW</u>												
C7 (Confidence)	4.57	1.07	.62*	.16	.10	.60*	.24	.22				
C8 (Staff)	3.61	1.06	.03	.49	.21	.09	.53	.38	.23			
C9 (2d Opinion)	3.59	1.23	-.01	.34	.38	.06	.28	.51	.35	.54		
<u>Part IV</u>												
C10	4.91	1.10	.45	.19	.01	.40	.09	.04	.21	-.01	-.08	

Note: Higher values indicate a stronger relationship between variables.

* Significant at $p < .05$

The tenth question was not highly correlated to the other confidence questions because it was significantly different in what it was asking the subjects relative to the three questions directly following the vignette. Question ten (C10) asked subjects: "given your experience to date, and experience you expect to gain as a battalion S3/XO, how confident are you about your ability to make sound tactical decisions as a maneuver battalion commander if selected someday?" This question requires the subject to project his confidence into the future, whereas, the other questions asked him specifically about his confidence in regard to the choice he made on the tactical vignette.

The mean confidence level of the subjects in the sample was 13.79 out of a total confidence measure of eighteen possible (three questions, maximum of six points each). The mean was fourteen, the range was eight, and the standard deviation was 2.2. This suggests a positively skewed distribution which was expected as a direct reflection of officers in the top half of their cohort. Figure 1, below, illustrates the distribution of confidence answers of all subjects.

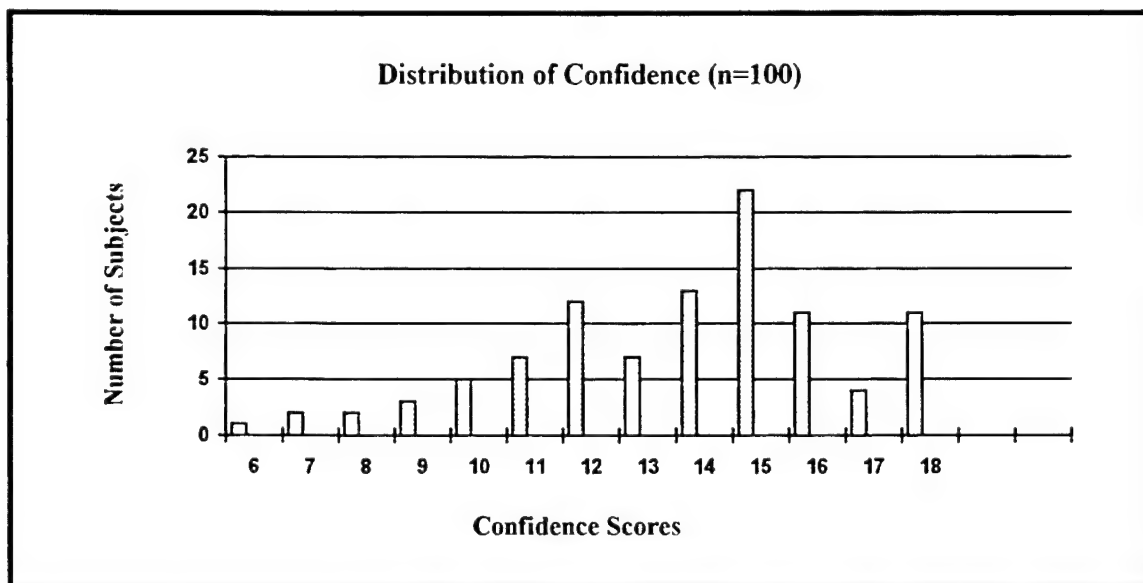


Figure 1

The conclusion from Figure 1, is that there was variance in the level of confidence in the sample that allowed for further analysis. A positively skewed, but normal distribution is reflective of the variance of confidence within the sample.

Independent Variables

Concrete and active experimentation experience were measured and used to test the two hypotheses. Recalling from Chapter 2, abstract conceptualization and reflective observation type experiences were defined as learning that does not include hands-on experience. These types of experiences were not used in the development of the hypotheses or methodology and were not measured in this study. Concrete experience is practical, hands-on, tactical experience. Concrete experience implies consistent exposure to, or participation in the maneuver battalion commander's combat decision making process. Recalling from Chapter 3, assignments meeting the criteria for concrete experience were narrowed to positions only where direct exposure to battalion-level combat decision making was highest. All of the subjects in the sample served as company-level commanders but varied in their amounts of other concrete experiences. The mean concrete experience level of the sample was found to be 38.4 months, and the standard deviation was 15 months. The relationship between confidence and concrete experience was assessed to answer the first hypothesis.

The relationship between concrete experience, combined with active experimentation-type experience was assessed to answer the second hypothesis. Active experimentation-type experience is tactical experience where exposure to battalion-level combat decision making is limited. The mean of active experimentation-type experience was found to be 54.8 months for the sample, bringing the mean of concrete experience and active experimentation, combined, to 93.2 months, and a standard deviation of 21 months. The relationship between confidence and the sum of

concrete experience and active experimentation was assessed to test the second hypothesis, and in doing so, determine if active experimentation enhances the strength of the experience-confidence relationship. Figure 2 and 3 below, illustrate the variance in experience.

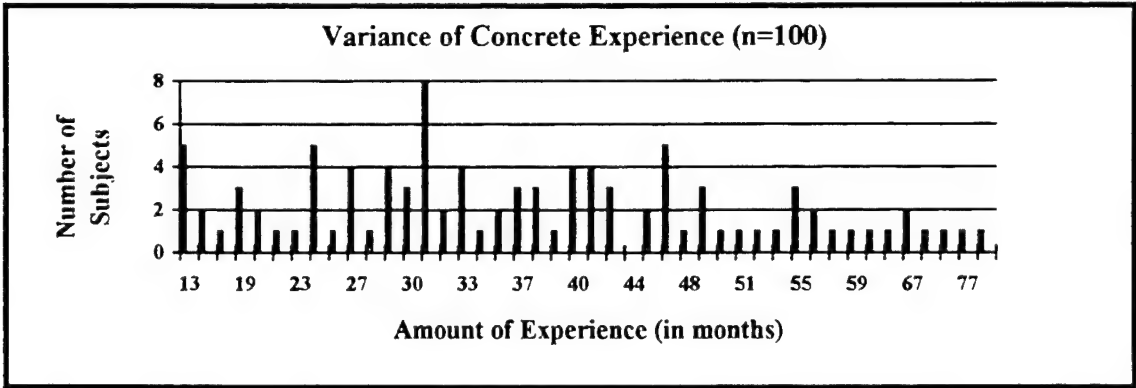


Figure 2

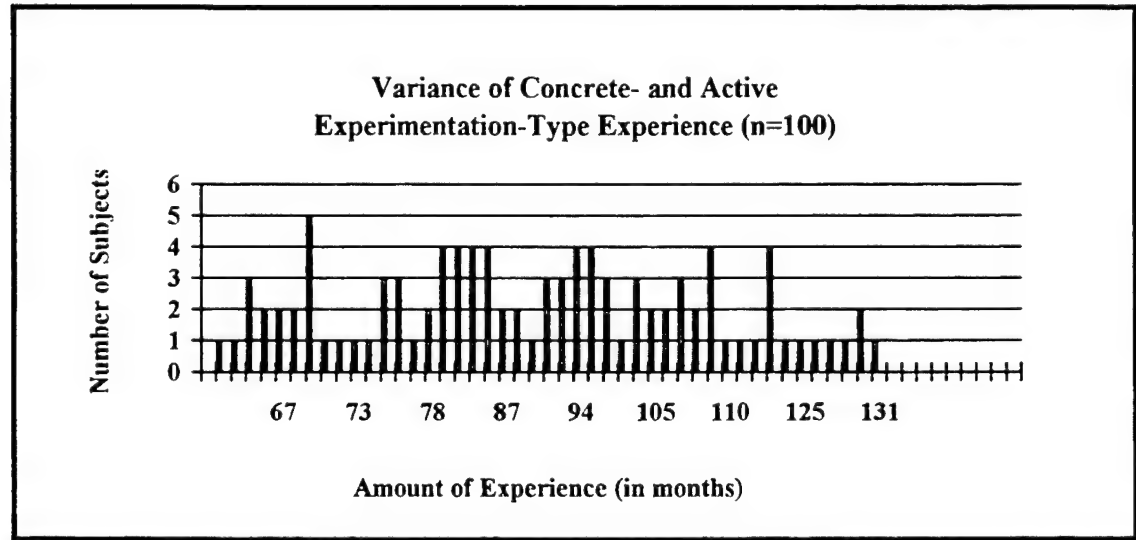


Figure 3

Table 2 illustrates the percentage of subjects and the mean amount of time, in months, subjects served in both concrete- and active experimentation-types of experiences.

Table 2.--Experience of Sample (Concrete Experience and Active Experimentation)

Experience Type	Percent/Number of Subjects Having this Experience	Mean Time in Positions (months)
<u>Concrete Experience:</u>		
Scout Platoon Leader	20	10.9
Assistant S3/S3-Air	72	11.7
Company/Troop Commander	100	24.7
Co. CDR/S3/XO/ or S3-Air OC	20	15.3
Ranger Battalion Liaison	3	4.5
<u>Active Experimentation:</u>		
Platoon Leader	98	15.9
Mortar Platoon Leader	12	9.4
Company Executive Officer	79	12.4
Battalion Motor Officer/SMO	15	13.6
Support Platoon Leader	22	11.1
Battalion S1	28	13.4
Battalion S4	25	12.6
Brigade Asst. S3	40	11.6
Observer Controller/CTC	20	13.7
Small Group Instructor	14	23.0
Reserve Component Advisor	6	16.3

Note: n=100 (Values represent overall mean experience in months. Subjects may have served in multiple positions)

Neither concrete experience, active experimentation, nor the total of the two emerged as significantly different according to branch type. Armor and infantry branch officers have similar experiences (Table 3). Table 3, and Figure 4, show the mean total number of months both concrete and active experimentation -type experience, by branch.

Table 3.-- Mean Experience by Branch

Experience	Armor (n=30) Mean No. of Months	Infantry (n=70) Mean No. of Months
Concrete Experience	38.0	38.6
Active Experimentation	57.6	53.5
Concrete Experience and Active Experimentation	95.6	92.1

Note: Difference between branches not statistically significant.

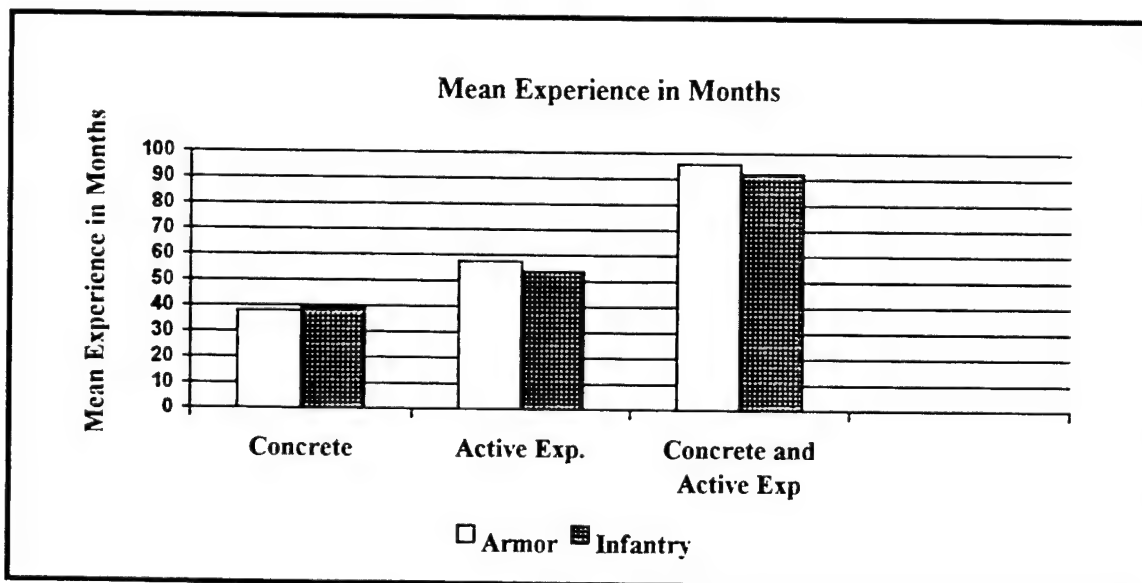


Figure 4

Analysis

Analysis of survey data was conducted in three parts. First, categorical variables were examined separately to determine if any emerged as significant covariates with either experience or confidence. Following from these results, the hypotheses were tested. Finally, Post Hoc testing was conducted to examine if other variables might also be playing a role in mediating the relationship between the amount of one's experience and his confidence about combat decision making.

Categorical Variables

Several variables were examined separately to see if any might emerge significantly correlated with confidence or experience. As mentioned in Chapter 3, the variables were: (1) time in company-level command, (2) commissioning source, (3) prior enlisted experience, (4) branch, (5) functional area, (6) number of Combat Training Center (CTC) rotations, (7) age of the subjects, and (8) education level. None of these variables revealed significant relationships with either the dependent or independent variables. However, one's "desire to command" and "recency (amount of time) since his last tactical experience" did emerge significantly related to confidence.

"Desire to command a battalion" was tested to examine its affect on confidence.

Correlational analysis with the summed confidence measure revealed a strong and significant correlation, $r=.65$ ($p<.01$). This finding indicates a positive relationship between one's desire to command and his confidence about making combat decisions. This finding suggests, perhaps, that one's desire to command a maneuver battalion is a reflection of personal motivation. In this sense, it is not at all surprising that desire to command is related to confidence. This finding is discussed more in Chapter 5.

The amount of time in months since the subject's last tactical, battalion-level experience was also examined to determine its relationship to confidence about making combat decisions.

Correlational analysis revealed a near significant and negative relationship between recency of one's last tactical experience and confidence about combat decision making, $r = -.39$ ($p < .07$).

This suggests that as time increases since one's last tactical experience, confidence about combat decision making declines. This finding is discussed more in Chapter 5.

Two additional variables were examined to determine if they might be playing a role in mediating the relationship between the amount of one's experience and his confidence about combat decision making: service as a General's aide and service in Ranger battalions. These two variables were identified for analysis when it appeared that subjects within these groups demonstrated an unusual relationship between their experience levels and their confidence about combat decision making.

Subjects who indicated they had served as a "General's aide" were isolated and the second hypothesis re-tested. The size of the sub-sample meeting this criteria was small, $n=16$. The results of statistical analysis illustrated a negative, but not significant relationship between this population's experience level and confidence about making combat decisions, $r = -.22$ (ns). The correlation for the population of subjects not having served as an aide was positive, but not significantly so, $r = .25$ (ns). A t-test of those having been aides, and all others revealed a significant difference in experience between them which accounted for the difference seen in the experience-confidence relationship: mean experience of aides was 84.5 months; mean experience of non-aides was 94.8 months ($p < .05$). While interesting it is not a factor which significantly informs us about confidence in combat decision making and is therefore not discussed any further in this thesis.

The final analyses performed isolated the population of subjects within the sample who had served in Ranger battalions. The population size of this sub-sample was small $n=13$. When the second hypothesis was tested according to this factor the experience-confidence relationship revealed was interesting: for those subjects who had served in Ranger battalion, $r = -.54$ (ns), for those who had not served in a Ranger battalion, $r = .36$ (ns). A t-test of those having served in Ranger battalions, and all others revealed a significant difference in experience between them which accounted for the difference in the experience-confidence relationship: mean experience of those who had served in a Ranger battalion was 105.4 months; for those who had not served in a Ranger battalion, 91.4 months ($p < .05$). The relationship, although not significant, revealed a strong correlation and therefore, this subject is further discussed in Chapter 5.

In all, analysis of all categorical variables in terms of their individual impact on experience or confidence yielded no unexpected results, nor factors which would facilitate more precise hypothesis testing. There was some evidence of distinctions between populations when categorized, but only in terms of experience and not confidence. The two variables that were significant, the desire to command and recency of tactical experience, were measures applicable to the entire sample and not categorical. Therefore, the statistical evidence provided justification to combine the entire sample for testing the hypotheses.

Hypotheses Testing

The hypotheses were tested by conducting correlational analyses of experience (concrete experience and active experimentation) and confidence. The first hypothesis predicted that a positive relationship exists between one's amount of concrete experience and his confidence about combat decision making. The first hypothesis was tested by measuring the correlation between concrete experience, in months, and the summed confidence measure (Table 1, C1, C4, C7). The

result of this test revealed only a slight and non-significant relationship, $r = .17$ (ns). Hypothesis One was not supported.

The second hypothesis was tested by conducting a correlational analysis of the sum of concrete experience and active experimentation (combined), and confidence. The second hypothesis predicted that the positive relationship between experience and confidence would be enhanced by adding active experimentation-type experience. The results of this analysis revealed a positive and significant relationship between the combined value of concrete experience and active experimentation, and confidence, $r = .29$ ($p < .01$). Hypothesis Two was supported suggesting that as one's experience increases so does his confidence. Regression analysis revealed that concrete experience and active experimentation, together, account for approximately 9% of the variance associated with predicting confidence in combat decision making; a noteworthy factor. Figure 5 illustrates the relationship between concrete- and active experimentation-type experience and confidence.

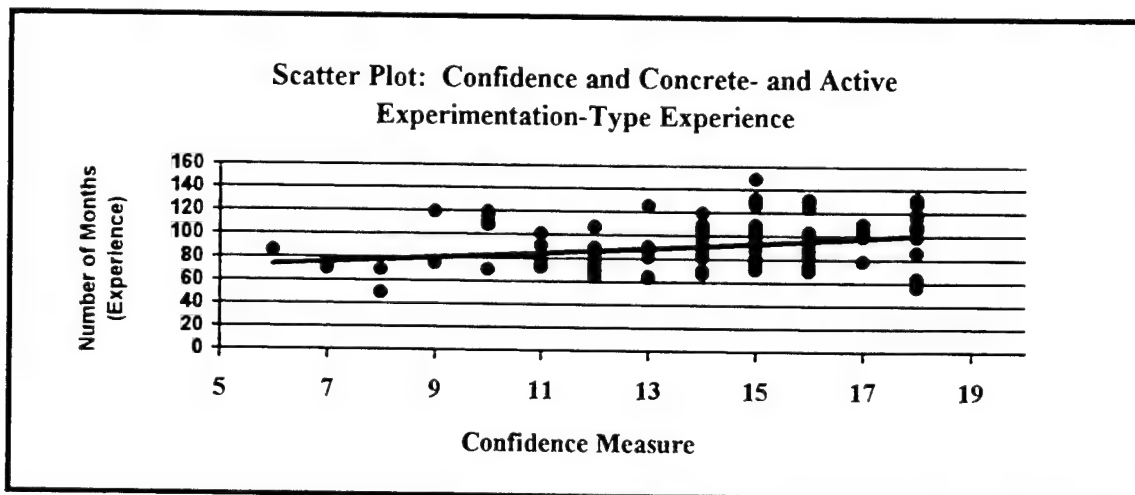


Figure 5

Summary of Analysis

Table 4, below, provides a summary of the hypotheses conducted, and identifies where significant relationships between experience and confidence were found.

Table 4.-- Summary of Hypotheses Testing (Confidence with Experience)

Population	n	Confidence	Hypothesis ONE Concrete Experience	Hypothesis TWO Concrete Experience and Active Experimentation
<u>Entire Sample</u>	100		$r = .17$	$r = .29^*$
<u>Other Variables</u>				
Desire to Command	100	$r = .65^*$		
Recency since last	100	$r = -.39$ ($p < .07$)		

Note: * significant at $p < .01$

Hypothesis One was not supported. A positive but non-significant relationship was shown to exist between concrete experience and confidence about combat decision making. When concrete experience was combined with active experimentation type-experience, however, the relationship between experience and confidence strengthened, and was significant. Hypothesis Two was supported. Concrete experience, combined with active experimentation-type experience is positively related to confidence and accounts for about 9% of the variance associated with confidence. The meaning inferred from these results is presented and discussed in Chapter 5.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to examine the relationship between the amount of experience a combat arms officer has and his confidence about combat decision making. This issue evolved as a result of consistent observations made at the nation's Combat Training Centers (CTCs) indicating that maneuver battalion commanders fail to make sound tactical decisions once operations commence. The battlefield is an ever-changing environment of danger and great uncertainty. On the battlefield, the maneuver battalion commander must apply the combat decision-making process to cope with change and capitalize on opportunity. Risks are involved in every decision. Information is likely inaccurate, incomplete, or even irrelevant to the commander's needs to solve the problems he faces. At issue is the extent to which his experience, itself, may address the shortcomings seen in decision making under these adverse circumstances.

Literature reveals that the decision maker relies mostly on his judgment and experience to act confidently during new and uncertain circumstances.¹ The speed in which decisions are made has been shown to be positively related to the success of decisions within high-velocity environments, like the battlefield, where uncertainty is high and time is critical.² Evidence indicates that experienced decision makers rely more heavily on intuition to solve complex problems when information is limited.

Confidence is the commitment to one's own judgment. Confidence is thought to be a quality of particular value in decision making when conditions of uncertainty and risk are high.

Research indicates that experience is important in the development of self-confidence in environments that are unfamiliar.³ The literature also indicates that experiential learning is linked to the ability to recognize and implement solutions to problems. Repeated success improves the ability of the decision maker to solve more complex problems.⁴ The Theory of Union of Rationality and Intuition explains how the decision maker transitions from analyzing information to making a decision. This suggests that both rationality and intuition are mutually dependent.⁵ Furthermore, literature indicates that leader experience is an important factor dealing with emergency situations when the level of difficulty and stress is high.⁶

Following directly from this research, two hypotheses were proposed: (1) A positive relationship exists between the amount of concrete experience a combat arms officer has and his confidence about combat decision making, and (2) The positive relationship between confidence and experience is enhanced by combining both concrete- and active experimentation-type experiences.

A survey instrument served as the sole means for testing the hypotheses. The self-developed survey included four parts designed to accomplish the following: capture descriptive/demographic data (Part I), measure specific experiences, by type (Part II), assess confidence about combat decision making (Part III), and assure validity to the extent possible so that confidence was accurately measured (Part IV). A pilot test of the instrument was conducted resulting in several minor modifications.

Summary of Results

Analysis enabled testing of the hypotheses and several other variables affecting one's confidence about combat decision making. This study revealed several significant and interesting findings. As predicted, there is a positive and significant relationship between one's amount of

tactical experience and his confidence about combat decision making. In addition, analysis illustrated a positive and significant relationship between one's desire to command a maneuver battalion and his confidence about making combat decisions. Analysis also revealed that the time that elapses since one's last tactical experience erodes one's confidence. The amount of time since one's last tactical experience was found to have a negative and almost significant effect on confidence. An interesting finding associated with officers who had served in Ranger battalions and their confidence about making combat decisions also emerged, meriting additional investigation.

Hypothesis One Findings

Statistical findings did not support the first hypothesis. This is interesting, especially in light of the fact that the rather similar Hypothesis Two was supported. Reflecting back upon the literature used to formulate Hypothesis One, several arguments may explain the non-finding: (1) there was an absence of sufficient variance to enable significant findings, (2) recency, or the amount of time that elapses since one's last tactical experience plays a role in subjects' confidence, and (3) perhaps it is a balance of different experiences rather than merely just concrete experience that increases confidence in making decisions.

In the military profession, variance in concrete experience is especially small. This hampered statistical testing. Within the Army profession there just does not seem to be much variance in the concrete experiences between junior officers. Roughly all infantry and armor officers are platoon leaders for one year and company commanders for 18-24 months. This is reflective of the personal management design for officer professional development. Absent much variance in experiences like these, there is little chance to find a significant relationship between concrete experience and confidence, and none was found.

Another explanation, for the non-finding of Hypothesis One, is the relationship between concrete experience and recency, or elapsed time since one's last tactical experience. Correlational analysis found that confidence about combat decision making declines as the time since one's last tactical experience increases. Analysis indicated that the amount of time since one's last tactical experience has a moderately negative, and near-significant effect on one's confidence, $r = -.39$ ($p < .07$). Confidence is defined as "how individuals perceive their ability to succeed at a particular endeavor."⁷ As time elapses, one's perception about his ability may decrease, especially given the changes that have occurred in the Army's mission and equipment over the last five years. Concrete experience, as defined in the study, included assignments that occurred when subjects were Lieutenants and junior Captains such as being a scout platoon leader and company commander. These assignments usually occur during the initial eight years of an officer's career as compared to many nominative assignments that subjects have had more recently, such as reserve component advisor, small group instructor, or any number of relevant observer controller positions at the CTCs. There is little doubt that concrete experience influences the learning that takes place in nominative assignments, but in regard to Hypothesis One, even high levels of concrete experience seems to do little to contribute to confidence directly, perhaps because these experiences occurred so long ago.

Figure 6, below, is a scatter plot illustrating the negative relationship between the amount of time that elapses between one's experience and their confidence about decision making. The downward sloping trend portrays a negative relationship. Recalling from Chapter 4, the maximum confidence measure is eighteen. Analysis revealed the time that had elapsed since the subject's last tactical experience ranged from six to ninety four months.

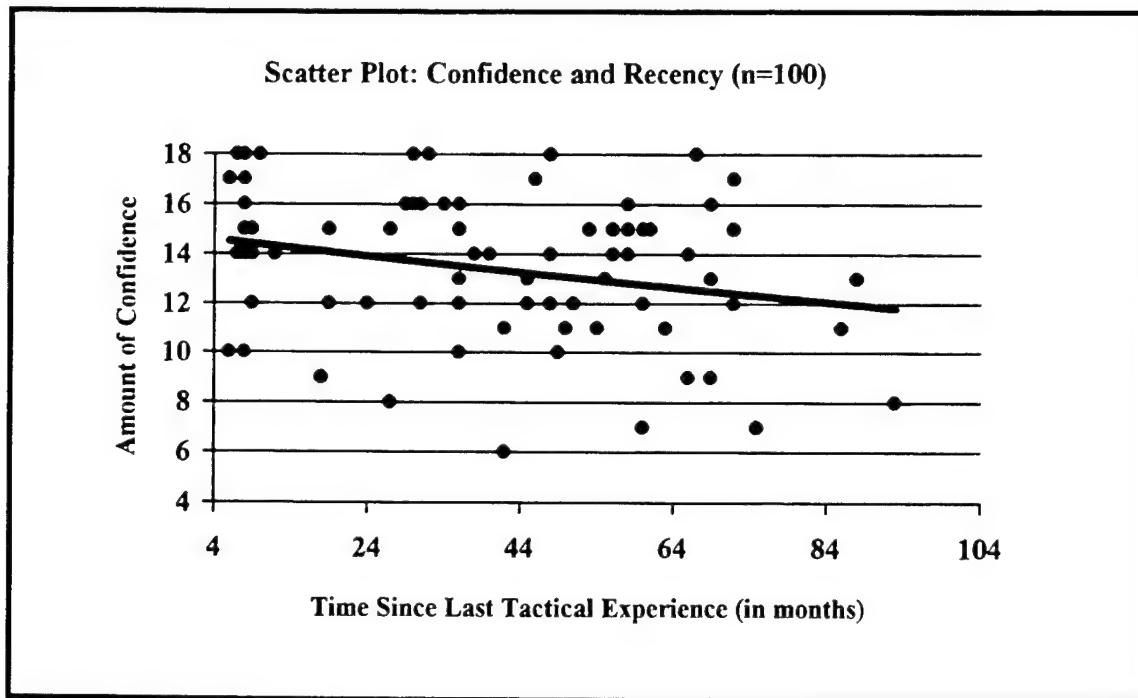


Figure 6

Another explanation for the non-finding of Hypothesis One may be that a balance of experience best contributes to one's learning and subsequent confidence in decision making. David A. Kolb's Experiential Learning Model indicates that learning is enhanced by having a balance between of the following types of experience: concrete, active experimentation, reflective observation and abstract conceptualization.⁸ The measurement of concrete experience, alone, was not indicative of the balanced learning which may be needed to affect confidence about combat decision making.

Albeit a non-finding, the results about Hypothesis One provide insight to better understand how experience might relate to confidence in combat decision making. The Experiential Learning Model and the Theory of Rationality and Intuition provide possible explanations about why

Hypothesis One was not supported. The Experiential Learning Model indicated that a balance of experience provides the decision maker with the best combination of learning experiences from which to make decisions.⁹ It may be that the measure of concrete experience, alone, did not represent enough balance in one's experience to positively relate to confidence about decision making. The Theory of Rationality and Intuition states that intuition is grounded in lived experiences.¹⁰ Perhaps the measure of concrete experience was not inclusive, or varied in scope enough to reflect one's utility of intuition in decision making.

The maneuver battalion commander relies on judgment, intuition and information when making combat decisions. In a battlefield environment, fog and friction make even simple things difficult to accomplish. Confidence about making decisions, within the context of the combat environment, may require the maneuver battalion commander to draw on a wide scope of tactical experiences. Concrete experience, alone, may not contribute enough to his confidence to act. It seems plausible that recent, rather than older tactical experiences would be more influential to one's confidence about decision making. Recent experience enables the maneuver battalion commander to rely on and apply skills that are fresh and newly developed. Likewise, recent experience might enable one to more readily recall from short term memory those details learned from past experiences that contribute to battlefield problem solving. In all, concrete experiences, alone, are not related to confidence in combat decision making.

Hypothesis Two Findings

Analysis supported the second hypothesis which predicted that the positive relationship between experience and confidence would be enhanced if active experimentation-type experience was combined with concrete experience. The correlation between the aggregate of concrete and active experimentation experiences and confidence was stronger than concrete experience, alone,

and significant, $r = .29$ ($p < .01$). This finding indicates that as one's tactical experience increases, so too, does his confidence about combat decision making. This finding supports the literature suggesting that levels of relevant tactical experiences contribute to the decision maker's confidence during conditions of uncertainty.

The literature outlined in Chapter 2 explains why Hypothesis Two was supported. TOTE Theory indicates that one's ability to identify and solve complex problems quickly depends upon the frequency of successfully solving problems in the past.¹¹ Applying TOTE Theory by combining active experimentation-type experience with concrete experience, many additional tactical experiences are accounted for. Subjects with increased tactical experience surely have more experience solving problems of a tactical nature. Consistent with TOTE Theory, more experience leads to more problem solving opportunities, which may lead to higher confidence. While analysis associated with Hypothesis One found that experience, tied solely to concrete experience in platoons and companies, is not a significant variable affecting confidence, combining all types of battalion-level tactical experience was found significant.

Support found for Hypothesis Two may also have been a result of the expanded variance associated with the measurement of tactical experience. Recalling from Chapter 3, active experimentation experience included tactical positions that provided some exposure to battalion-level combat decision making, while direct participation in the actual battalion-level decision-making process was limited. By combining concrete and active experimentation experiences, many additional assignments were included, such as: all other battalion-level staff positions, selected brigade-level staff positions, small group instructors, all observer controllers at the CTCs, and those serving in reserve component advisor positions at the battalion-level. Increasing the scope of tactical experience in this way increased the variance of experience among subjects. To the extent that variance of experience may play a part, combining concrete experience and active

experimentation was enough to enable a significant finding about the relationship between one's confidence in combat decision making and experience.

Support for Hypothesis Two supports the notion that one's amount of tactical experience is related to his confidence about making decisions under conditions of uncertainty where information is limited. Hypothesis Two was not significantly different than Hypothesis One in concept; it simply incorporated a broader measurement of one's tactical experience. Given that the broader measurement was significant as a factor, evidence is now available suggesting that the maneuver battalion commander's confidence to act, and decide, within the context of the combat environment is directly related to his amount of tactical experience. According to Stefan Wally and Robert Baum, to act confidently the decision maker relies on judgment and intuition, especially when information is limited, uncertainty is high, and time is short.¹² Louis R. Pondy defined intuition as the trained analysis of facts that are grounded in experiences.¹³ Confidence has also been found to enable the decision maker to quickly assess the meaning of the slightest bits of information, formulate solutions, and implement actions.¹⁴ This study contributes to the literature by providing evidence that practical experience is linked to, and acts as significant mediator of one's confidence to act under these conditions.

Additional Findings

There were several other variables that are related to one's confidence about combat decision making. The desire to command a battalion was strongly and significantly correlated with confidence, $r=.65$ ($p<.01$). Subjects who indicated a high desire to command are more confident about decision making than those with low desire. It would seem that one's desire and his confidence would complement each other. Subjects who have high confidence, have a perception of their high ability to succeed at a particular endeavor, and therefore have a high desire to do so.

As already discussed, the amount of time since one's last tactical experience demonstrated a negative, and almost significant relationship with confidence, $r = -.39$ ($p < .07$). This suggests that as the amount of time increases since one's last tactical experience, his confidence about combat decision making decreases. This relationship is understandable because as time elapses, skills degrade, doctrine evolves, and weapons systems advance. In addition, officers may not be adequately augmenting operational assignment experience with self-development training during periods they are away from tactical units. These factors may combine to reduce one's confidence about combat decision making.

Subjects who have served in Ranger battalions demonstrated a negative, although insignificant, relationship between their levels of experience and confidence about making combat decisions. Even absent a significant finding, this is compelling. Analysis revealed that subjects who had served in Ranger battalions had a significantly higher level of tactical experience than those who did not ($p < .05$), yet demonstrated an almost opposite level of confidence. Although non-significant, statistically, a sizable and negative correlation between experience and confidence surfaced ($r = -.58$) that was contrary to the supported hypothesis.

Two explanations may account for the potentially opposite relationship. Firstly, subjects serving within Ranger battalions may have been socialized to rely on more information than non-Ranger peers. Absent sufficient information about the battlefield, as in the survey vignettes, they lack confidence. Ranger battalions are part of an elite Army organization that execute strategic-level operations. Prior to executing missions, every effort and resource are exhausted to reduce risks and uncertainty. All sources of intelligence are available to provide up-to-the-minute situational imagery for the area of operations prior to mission execution. Prior to making decisions, the Ranger battalion commander is trained to use, and typically has more information

available than a conventional maneuver battalion commander. Perhaps, Rangers are socialized to have more information, and absent that (as in the survey vignettes) they lack confidence.

Subjects who served in Ranger battalions may also have a higher level of understanding about the combat decision-making process and, in effect “know what they do not know.” It could be that Rangers realize the complexities of making combat decisions more than their peers, and consequently are less confident given the limited information provided in the vignettes. Recalling from Chapter 2, learning from experience occurs if one can apply lessons from experience to new situations. The ability to do this requires an understanding of what is relative to, and applicable from one situation to the next.¹⁵ The limited amount of information that was available in the tactical vignettes used in the survey instrument purposefully left a number of questions unanswered. To increase uncertainty, the purpose and intent of the operation was intentionally left unclear. It might be that subjects who have served in Ranger battalions more fully realize the uncertainty of the situation, and better appreciate what could go wrong as a function of drawing from experience under similar conditions. Again, they may “know what they do not know.” This effect would leave the “Ranger” unconfident relative to his non-Ranger peer and account for the potential negative relationship.

Implications For Theory

The findings of this study support most of the literature that contributed to the formulation of the hypotheses. TOTE Theory stated that confidence in complex problem solving was derived from one’s experience in solving problems similar problems.¹⁶ The theory also stated that one’s frequency of processing TOTE cycles enables him to rapidly identify problems and implement plans to solve problems.¹⁷ The findings of this study support the underpinnings of TOTE Theory.

Subjects who possessed higher levels of experience were more confident about the decisions they made to solve the problems in the tactical vignettes.

TOTE Theory also provides an explanation for why Hypothesis One was not supported. TOTE Theory states that ability of the decision maker to quickly identify and implement solutions to problems is dependent on the frequency of problem solving in the past. It also explains that the decision maker's abilities improve as problems become more complex. Given this, it may be that Hypothesis One was not supported because the measurement of concrete experience, alone, did not account accurately for the range and frequency of one's problem solving experience.

The Theory of Rationality and Intuition contributed directly to formulation of the hypotheses and the findings of this study support the premises of this theory. The Theory of Rationality and Intuition explains that the decision maker combines rational and intuitive processes in making decisions.¹⁸ The theory states that the decision maker relies on rational or analytical information, when available, to identify problems and make decisions.¹⁹ During situations when information is lacking and uncertainty increases, however, the decision maker relies on his intuition which is the practiced analysis of facts that are grounded in lived experiences. The tactical vignettes in the survey instrument provided little information with the purpose of causing uncertainty. This study found that subjects who had higher levels of tactical experience were more confident about solutions they selected to solve the tactical vignettes. In applying this theory, subjects with higher levels of tactical experience may be more comfortable relying on their intuitive skills than those with less experience.

The findings of this study support suggestions provided by Robert J. Elbert and Terence R. Mitchell in Organizational Decision Process. Ebert and Mitchell explain that individual judgment, which is reflective of one's antecedent cognitive activities and experience, plays an important role in decision making.²⁰ They explain that decision makers rely on personal judgment even when an

abundance of quality data is available.²¹ The findings of this study reinforce these concepts. It seems logical that subjects in the study simply applied judgment that is reflective of their experience when making decisions about the tactical vignettes. Subjects with higher amounts of experience may have been more confident in applying their judgment.

The findings of this study provides support to the Experiential Learning Model used to code and measure the independent variable, "experience." The Experiential Learning Model outlines different types of learning. The model outlines four types of learning: concrete experience, active experimentation, reflective observation and abstract conceptualization. The model explains that all types of learning are necessary to the development of the leader and decision maker. Beyond this point, however, the model suggests that concrete experience and active experimentation-type experience provide the best combination of experience to quickly identify the root of a problem and implement a solution in new environments. This study found that concrete experience, alone, is not related significantly to one's confidence; however, the combination of concrete and active experimentation were significantly related to confidence. This finding adds support to the theory which indicates that a combination of experience-types contributes most to decision making. It is important to note, however, that the analysis did not include all four experience-types outlined by the Experiential Learning Model.

The Experiential Learning Model parallels closely the Officer Professional Management System (OPMS). The OPMS system balances operational and nominative assignments in the development of officers. It does this by assigning officers to formal learning institutions, operational troop unit assignments, and nominative non-troop assignments. These types of experiences combine to provide balance in officer development. The findings of this study suggest that operational tactical troop assignments, more than nominative assignments, relate to officers' confidence about combat decision making. The Experiential Learning Model indicates, as this

study found, that higher levels of tactical troop experience enhance the confidence of maneuver battalion commanders operating in environments where uncertainty exists.

This study supports the research findings of Dr. Fred Fielder outlined in New Approaches to Effective Leadership. In his book, Fielder found that experience is likely to affect leaders by providing useful job-related knowledge, enhancing the ability to cope with stressful situations, and engendering a feeling of greater self-confidence and control of the leadership situation.²² The findings of this study add support to Fielder's research. Experience does contribute to the confidence of the decision maker when faced with a situation where uncertainty is high. Fielder conducted field research and his samples consisted primarily of enlisted soldiers at the squad and platoon-level. His field research categorized experience as tenure and time serving in specific positions. To the contrary, this study about experience and confidence categorized experience as time mid-level officers served within specific positions. Additional research of my hypotheses at the nation's CTCs by measuring experience and decision making quality, would enable an extension of my findings.

William A. Reitzel in his book, Background to Decision Making, provides valuable insight that may explain why a negative, although insignificant relationship was found among officers who had served in Ranger battalions who had high levels of tactical experience but relatively low confidence about decision making. Reitzel outlines the limitations of experience in decision making by placing emphasis on understanding how experience is applicable to a new situation. He states that experience provides repetition that, alone, enables one to learn how to specifically perform under similar conditions.²³ The value of experience, as applied to new situations, is more dependent on understanding how components of past situations are relative and provide insight to the new situation.²⁴ This point is echoed by Paul S. Greenlaw and Max D. Richards in their book, Management Decisions and Behavior, who state that the extent of experiential value lies in

avoiding over-generalizing from past experience. They indicate that experience is most valued in contributing one's ability to accurately identify how the key variables in a new decision situation are similar to, or are different from those previously encountered.²⁵ These insights explain why officers who had served in Ranger battalions and had high levels of tactical experience were not comfortable about their decisions. Perhaps they did not feel confident about generalizing from past experiences to a situation where information was limited. The findings of this study do not provide conclusive evidence to support these concepts because of the small sample involved, n=13. Additional research is needed to determine if amounts of tactical experience eventually lead to one who is cautious about over-generalizing from past experience when confronted with a new situation. It may be that officers who served in Ranger battalions are socialized by operating in conditions where uncertainty is minimized. As a consequence, perhaps they are less confident about making decisions when uncertainty is high.

The findings of this study suggest that confidence is related to specific experiences and not necessarily experience in general. Research contributing to decision theory is vast within the private sector and relatively scarce within the military. Confidence about combat decision making seems to be uniquely different than confidence about managerial decision making. As literature reveals, uncertainty, stress, friction, and most of all, lethality, distinguish combat decision making as uniquely different. As this study demonstrated, research pertaining to measurements of experience should consider categorizing variables specifically to job-related experience within the field of study.

Recommendations

The Army has experienced several changes since the collapse of the Soviet Union and the ending of the Cold War. The Army recently completed a post Cold War down-sizing reducing the

size of the Army from sixteen active Army divisions to just ten, all in just five years from 1990 to 1995. Simultaneously, the Army fought "Desert Storm" and has been actively involved in several global operations other than war (OOTW), such as: Bosnia, Haiti, Somalia, Rwanda, and Saudi Arabia. There are many concerns expressed by Army leaders at the highest levels that the combination of decreasing federal defense budgets coupled with increasing operations tempo (associated with non-mission essential requirements) is having an adverse effect on readiness.²⁶ Combat arms officers gain most of their tactical experience during the initial twelve years of their career and have limited opportunities to serve in tactical units after departing CGSOC. Today, combat arms officers departing CGSOC may be assigned directly to units deployed to Bosnia or Saudi Arabia, forgoing the opportunity to train and develop conventional war-fighting skills. Operations other than war do not give officers relevant maneuver experiences due to the non-METL related nature of these operations which range from peace-keeping to humanitarian relief operations. Units redeploying from OOTW must conduct intensive training to re-develop individual- and collective skills that deteriorate during OOTW operations. Given this, and the findings of this study, combat arms officers may not have enough relevant tactical experiences to enable confidence about their combat decision making when becoming maneuver battalion commanders.

In addition to strategic, operational and structural changes that have impacted on the Army, congressional mandates and laws are also affecting officer professional development. The Defense Reorganization Act of 1986 mandated specific changes regarding officer assignments. As a result of this Act, officers must serve three years in a joint assignment in order to fulfill the congressional mandated criteria for promotion to general officer. This policy has had an impact on officer stabilization because once officers are branch qualified as captains or majors they are often reassigned to fill these positions. Officers complete tactical assignments, such as being a company

commander or battalion operations officer and are immediately transferred to another assignment. This reduces the opportunity for officers to serve in a follow-on tactical assignment. This act adds to the complexity of officer management and reduces the experience officers have in tactical assignments.²⁷

Given the support found for the relationship between experience and confidence, there would be many advantages to increasing the amount of overall tactical experience combat arms officers enjoy prior to their becoming maneuver battalion commanders. Admittedly, confidence about combat decision making is not a direct measure of decision-making ability or quality. It is, however, an important quality contributing to the decision maker's ability to make rapid decisions in new and uncertain conditions. The speed in which decisions are made under these conditions is directly associated with retaining initiative on the battlefield. Experience is related to confidence in decision making. Confidence enhances the decision maker's ability to visualize solutions in risky situations. Recalling from Chapter 2, the ability to solve complex problems quickly in environments where uncertainty is high requires the decision maker to rely on judgment and intuition. This is derived from experience.²⁸

The Officer Professional Management System (OPMS), as currently configured, does not provide enough opportunity for tactical experience. OPMS develops officers by balancing their assignments between institutional learning and operational assignments.²⁹ Given the observations made at the nation's CTCs, however, the amount of tactical experience that battalion commanders receive may not be adequate. Officers are required to serve only two years in tactical assignments prior to being selected as battalion commanders.³⁰ Obviously, most officers serve more than two years in tactical assignments, as analysis in this study found. The OPMS criteria for company-level command should increase beyond 12 months.³¹ This change would increase concrete experience levels of combat officers. In addition, tactical experience of field grade officers needs

to be increased. The OPMS branch qualifying criteria for majors is one year in a tactical assignment as a battalion S3 (operations officer) or XO (executive officer), and this may not be enough. Increasing the criteria beyond one year would increase relevant maneuver experiences.

The recency of maneuver battalion commander's last tactical experience contributes to a lack of confidence about combat decision making. As analysis in this study found, the mean recency since one's last tactical experience was 44 months for CGSOC combat arms officers. When adding this amount of time to the 4-5 years that elapses between CGSOC and assumption of battalion command, even considering a year as battalion operations officer or executive officer, the ratio of tactical experience relative to other assignments declines significantly. As addressed earlier, when time elapses since one's last tactical experience skills begin to erode and confidence in ability seems to decrease. Again, this effect could be reduced by increasing field grade level branch qualification criteria beyond twelve months. Implementing this change would ensure combat arms officers have time to reflect on experience while maintaining confidence gained from recent experience.

In summary, the OPMS system may not be providing an adequate balance between operational (tactical) assignments and other operational (nominative) assignments. The current officer development system assigns officers to a variety of positions aimed at balancing the needs of the Army with officer branch qualification requirements and the preferences of the officer. Hands-on, practical experience is important in developing the qualities of intuition and judgment of the decision maker. These qualities are linked to performance in high velocity, uncertain environments. Literature indicates that the decision maker's use of intuition and judgment in decision making is related to his confidence. Given the premises founded in literature and the findings of this study, tactical experience of infantry and armor officers should be increased to address the shortcomings in decision making observed at the nation's CTCs.

As the Army's reliance on systems designed to enhance battlefield awareness increases, so too, will the premium placed on tactical experience. Army force design changes will incorporate digitization that improves the maneuver commander's situational awareness. This is achieved by interfacing digital communications links that provide imagery to the commander depicting locations of both friendly and enemy forces on the battlefield. As technology advances, however, so too, does the Army's tendency to rely on it. This reliance may actually reduce maneuver commander's ability to lead and make decisions unless he has sufficient tactical experience to enable confidence in decision making. Instead of new technology reducing the experience requirements of combat arms officers it will likely increase the need for tactical experience. Combat arms officers will continue to need tactical experience to sustain the current level of war-fighting proficiency that has been identified, but in addition will need to develop and sustain new technical skills required to use and interpret information provided by new systems. The OPMS must consider the need to increase the tactical experience levels of future combat arms officers to ensure they have the skills to operate technical equipment and more importantly, be able to continue operations without hesitation when equipment fails or breaks.

The hazards of relying too heavily on technology is illustrated by the findings exhibited by the population of subjects who served in Ranger battalions. As discussed earlier, subjects who served in Ranger battalions demonstrated a negative relationship between their experience and confidence about making decisions. It was argued that this may have been the result of their dependency on having less uncertainty when making decisions. The Army's reliance on technology to improve battlefield situational awareness could cause significant problems for the maneuver battalion commander should systems that he depends on fail. There can be no substitute for practical experience on the battlefield, especially as our dependency on technology increases.

The recommendations of this study are consistent with the current reevaluation of the Army Officer Personnel Management System (OPMS XXI). Proposals that are being considered would increase officer tactical experience by enabling combat arms officers to serve longer in critical tactical positions. The findings of this study certainly lend support to policy proposals that would enable combat arms officers to have more opportunities to serve in a second company-level command position and possibly two years, or more, in tactical units as a field grade officer before becoming maneuver battalion commanders. If these proposals are approved, the tactical experience of combat arms officers would increase and time that elapses between tactical experiences would decrease. These factors will increase confidence about combat decision making and improve future maneuver battalion commanders' abilities to retain initiative on the battlefield. Based on the findings of this study, and in this regard, OPMS XXI should be approved.

Limitations

The sample of convenience limits the generalizability of the findings. The sample represents officers who are eligible for battalion command, not necessarily those who will be so. In addition, perhaps data that included officers who had already been selected to serve as commanders would result in more certain findings. Officers within the sample were asked about their confidence in making decisions at a point in their careers three to four years in the future. This required them to project themselves considerably and represents the most limiting factor of this study.

Another potential limiting factor relates to the link between one's confidence in combat decision making and his actual abilities regarding combat decision making. Research suggests behavioral relationships between experience levels and an officer's confidence. Confidence is linked to performance levels when faced with decisions under conditions of uncertainty. This,

however, falls short of saying that confidence levels directly impact on decision making ability. Research to further investigate the possible linkage between confidence and decision making is needed.

Suggestions For Future Research

The research conducted in this study linked one's tactical experience to his confidence about combat decision making. Additional research is needed, however, to further our insight about these matters. One limitation of the study was the sample of officers available for research. Although the sample is reflective of officers likely to be selected as battalion commanders, the sample is limited in that it draws conclusions from a population that will acquire additional experience before becoming battalion commanders. A research sample that includes combat arms officers that have been selected to serve as battalion commanders (perhaps at the Pre-Command Course) would have produced more relevant insights because it would more closely reflect the population of interest. Additional research aimed at measuring confidence of officers in command, or selected for command, is needed to further the implications of this study.

The study was limited in that it measured confidence about combat decision making, not decision making quality. Neither did it establish a causal relationship between experience and confidence. Absent access a CTC, the study was limited in its ability to measure how tactical experience actually affects decision making ability in a realistic and truly challenging environment, or battlefield. Research in this area needs to examine the causal relationship between experience and confidence and its relevant impact on the quality of combat decision making. The most effective method of conducting this research would be at one of the nation's CTCs. Research capturing various experience levels prior to CTC rotations, and assessing the quality of decisions would provide insightful findings.

Additional research is also needed to determine the extent to which socialization within tactical environments shapes officers' confidence in decision making. To what extent does uncertainty in training contribute to confidence in decision making on the battlefield? This study found an interesting, although non-significant, relationship among subjects who had served in Ranger battalions and their confidence. Additional research is needed to determine if there is a significant negative relationship between experience and confidence when increased certainty on the battlefield cannot be achieved via technical means. The results would provide valuable insight about implications of "knowing what you do not know" and the limitations created by technology when it fails.

This study illustrated that nearly 20% of the variance associated with one's confidence about combat decision making is related to experience. That is quite insightful; however, it still leaves 80% of the variance unexplained. Additional research is needed to examine other qualities that may contribute to one's confidence, such as: memory recall ability, commitment, use of intuition, cognitive complexity, and creative and critical thinking skills. Additionally, investigation of what factors are innate and what factors can be developed may assist Army leaders in establishing programs to take advantage of these concepts.

Conclusion

This study began by asking: "how do levels of tactical experience affect confidence about combat decision making?" This study found that levels of tactical experience are related to confidence about combat decision making. Two hypotheses were formulated from a thorough review of literature. A procedure to test the hypotheses was designed and statistical analyses conducted. The results of statistical analyses provided evidence to support one of the two hypotheses and several other interesting relationships surfaced.

This study found evidence that tactical experience contributes to one's confidence about combat decision making; however, decision theory and empirical research have not concretely established a relationship about how experience or confidence contributes to the quality of decision making. Behavioral science is limited in establishing tangible relationships between personalistic, individual qualities, and decision-making performance. This study aimed at bridging a small gap in decision science; how one's experience relates to confidence. Decision theory, within the context of military decision making, is limited and somewhat unexplored. This point is evident in the literature used to formulate the hypotheses which were derived almost entirely from literature produced in the private sector. Literature and empirical evidence about decision theory available in the private sector relates to conditions and circumstances that are often inconsistent with the realities of the battlefield. There is a need to increase academic research into the area of military decision making to answer the questions associated with the qualities that contribute to sound military decisions. The maneuver battalion commanders of the future need to be armed with not only the best equipment, but the best decision making qualities and experiences possible to enable success on the battlefield.

In summary the research conducted in this thesis advances both the theoretical and practical knowledge of the relationship between experience and confidence. Through the use of literature, hypotheses were formed that bridged the gap between one personalistic quality, experience, and another, confidence. Through empirical testing a significant relationship between experience and confidence was found. The findings of this study support the premises provided in literature that led to the hypotheses and contribute to the body of knowledge about experience and confidence.

¹Paul S. Greenlaw and Max D. Richards, Management Decisions and Behavior (Homewood, IL: Irwin-Dorsey, 1972), 59.

²Stefan Wally and Robert Baum, "Personal and Structural Determinants of the Pace of Strategic Decision Making," Academy of Management Journal 37 (August 1994): 935.

³Peter R. Dickson, and Norris Krueger Jr., "How Believing in Ourselves Increases Risk Taking," Decision Sciences 25 (1995), 386.

⁴Ronald J. Ebert and Terence R. Mitchell, Organizational Decision Process (New York: Crane, Russak and Company, 1975), 17.

⁵Suresh Srivasta, "The Theory of Rationality and Intuition" The Executive Mind, (San Francisco: Jossey-Bass Publishers, 1983), 169.

⁶Fred Fielder, New Approaches To Effective Leadership (New York: John Wiley and Sons, 1987), 40.

⁷Michael A. Hitt and Duane R. Ireland, "Self-Confidence and Decisiveness," Buisness Horizons, (February 1992): 36.

⁸Srivasta, 112.

⁹Ibid.

¹⁰Ibid., 174.

¹¹Ebert and Mitchell, 19.

¹²Wally and Baum, 937.

¹³Srivasta, 174.

¹⁴Dickson and Krueger, 397.

¹⁵William A. Reitzel, Background to Decision-Making, (U.S. Naval War College: June 1958), 9.

¹⁶Ebert and Mitchell, 19.

¹⁷Ibid., 20.

¹⁸Srivasta, 172.

¹⁹Ibid.

²⁰Ebert and Mitchell, 100.

²¹Ibid.

²²Fred Fielder, 32.

²³Reitzel, 22.

²⁴Ibid.

²⁵Greenlaw and Richards, 59.

²⁶Pat Towell, "Pentagon Seeks Money To Pay for Unscheduled Missions," Defense and Foreign Policy, (January 1995): 216.

²⁷Kathleen V. Medlock, "A Critical Analysis of the Impact of the Department of Defense Reorganization Act on American Officership" (Ph.D. diss., George Mason University, 1993). 69.

²⁸Wally and Baum, 937.

²⁹U.S. Army, DA Pam 600-3, Commissioned Officer Development and Career Management (Washington, DC: Department of the Army, June 1995), chap. 2-1.

³⁰Ibid., 6-8.

³¹Ibid., 6.

APPENDIX A

GLOSSARY

Active Experimentation-type Experience. Experience that provides exposure to, but limited participation in the maneuver battalion commander's combat decision-making process.

Categorical Variable. Variables identified in addition to the dependent variables, that are based on demographic or other unique qualities. Categorical variables are identified to determine if other factors are related to the dependent variable.

Combat Decision Making. The decision making process that the maneuver implements once hostilities commence on the battlefield.

Combat Training Centers. The combat training centers are specific maneuver areas equipped and resourced to train and evaluate battalion and brigade size units on their mission essential tasks. There are three combat training centers: the National Training Center at Ft. Erwin California, the Combat Maneuver Training Center at Hoensfels West Germany, and the Joint Readiness Training Center at Ft. Polk Louisiana.

Concrete Experience. Practical, hands-on experience that provides direct exposure to and participation in, the maneuver battalion commander's combat decision-making process.

Correlation. A statistical test to measure the strength or closeness of the relationship between variables.

Covariates. Variables that are highly correlated with a dependent variable and are used in analysis to increase the precision of the measurement.

Deliberate Decision Making. The decision-making process the maneuver battalion commander implements prior to hostilities commencing on the battlefield. The extent of the process is determined primarily on the time available.

Operations other than war. Encompasses a wide range of activities where the military instrument of national power is used for purposes other than the large scale combat operations usually associated with war.

Pilot Test. An initial test of the procedure used to ensure instrument clarity, initial internal validity and check methodology.

Reliability. Any variety of procedures used to determine the extent of repeatability among measures.

Self-Efficacy. One's self-perception of ability to accomplish something.

Study Proper. The actual test of the hypotheses after a preliminary pilot test has been conducted.

Variance. The range of measure within a given set of data about a population.

Validity. The extent, based on subject's responses, the survey instrument is accurately measuring a variable.

APPENDIX B

SURVEY INSTRUMENT

Survey Participant,

This survey provides the basis for research aimed at answering the question: How is tactical troop experience related to confidence about combat decision-making ability? Answers to this question may suggest significant ramifications in the way combat arms officers are developed in the army. Obviously, the army has many personnel requirements to fill, but how much (and what kind of) "troop time" is enough to prepare maneuver battalion commanders for the challenges they face in an ambiguous battlefield?

In contrast to many of the surveys you're asked to complete here at the school, I believe you'll find the focus of this research professionally intriguing. You were selected to participate in the study by virtue of being an infantry or armor officer with potential for serving as a maneuver battalion commander. **EVERY RESPONDENT IS CRITICALLY IMPORTANT!** As such, I ask that you provide input to this important research effort by completing and returning the attached survey.

You'll notice that the survey is entirely anonymous, and that no attempt is made to identify you personally. My conclusions will reflect only the attitudes of the entire sample and not individually. Your feedback will provide information essential to this research. The overall results of this study will be compiled for a CGSC (MMAS) thesis and a summary may potentially be forwarded to the office of the DCSPER and other army agencies.

Critical to the success of this survey is your detailed answering of the questionnaire designed to capture your experience up to this point in your career. The survey takes about 15 minutes to complete. Upon receipt of the survey, complete all questions and seal it in the envelope provided. Place the completed survey in the box labeled "MMAS Survey" located on top of the student boxes in room #14, 2nd floor (north end) of Bell Hall not later than 7 March 1997 (Suspense).

I welcome all comments you may have concerning any aspect of the survey or this research project and will post a summary of the research findings on section bulletin boards by mid-May. The findings will reflect compiled data without reference to participants.

Thank-you in advance for your participation,

Gregory D. Reilly
Maj, AR, CGSC, Sec 15D

PART I

Please answer each of the following questions in the space provided. Either pencil or pen are acceptable, but please write legibly.

1. Your Branch: Infantry _____ Armor _____
2. Acquisition Corps: Yes _____ No _____
3. Your Functional Area: 11 ___ 39 ___ 41 ___ 45 ___ 46 ___ 48 ___ 49 ___ 51 ___ 53 ___ 54 ___ 97 ___
4. Source of Commissioning: OCS _____ ROTC _____ USMA _____ Other _____
5. Your age in years and months: _____
6. Your rank: _____
7. Time in Service (years and months): _____
8. Time in Grade (years and months): _____
9. Education level: BA _____ BS _____ Masters _____ PhD _____
10. Prior Enlisted Service: Yes _____ No _____ Service _____ MOS _____ Years _____

FOR EACH QUESTION BELOW, PLEASE CIRCLE THE NUMBER THAT BEST REPRESENTS YOUR ANSWER TO THE FOLLOWING QUESTIONS.

11. To what extent do you want to be a maneuver battalion commander? (Circle One)

1	2	3	4	5	6	7
DO NOT WANT BE A BN CDR	PROBABLY TURN IT DOWN	LEANING TOWARD TURNING IT DOWN	NEITHER DO NOR DON'T WANT TO BE A CDR	IF SELECTED I WOULD ACCEPT	WANT TO BE A BN CDR, BUT NOT UNHAPPY IF NOT SELECTED	ABSOLUTELY WANT TO BE A BN CDR

12. What percent chance do you think you have to being selected for Bn Command? (Circle One)

1	2	3	4	5
0% EXTREMELY	LESS THAN EVEN CHANCE	50-50 TOSS UP	BETTER THAN EVEN CHANCE	LIKELY TO BE ACCEPTED

13. How long has it been since you last served in a TOE tactical troop assignment at battalion level or below? Consider Observer Controller or AC/RC assignments as meeting this criteria.

How long ago (months) _____ Position held and type of unit: _____

PART II

This portion of the survey captures your specific experiences (in months) so far in your career. It is assumed that each officer attended the officer basic and advanced courses, CAS-3 and CGSC, so please do not include these institutional experiences. Please be as specific as possible, for instance, if you served for 31 months as an Observer Controller at JRTC, please indicate your specific responsibility as an OC, I. E., Platoon OC, Mech Company CDR OC, Field Trains OC, etc.. If the questions asked do not account for all your significant military experiences, please include additional comments at the end of Part Two.

PLEASE ENSURE TO INDICATE "SEPARATELY" SPECIFIC DUTY TITLE, UNIT TYPE AND TOTAL TIME IN MONTHS YOU SERVED IN EACH POSITION. EXAMPLES ARE PROVIDED.

1. HAVE YOU HAD TOE PLATOON LEADER OR COMPANY EXECUTIVE OFFICER EXPERIENCE in an armored or infantry battalion/cavalry squadron? Yes___ No___

<u>Positions Held</u> (i.e., Plt Ldr, XO, Mort Plt Ldr)	<u>Time in Months</u> 15	<u>Type Unit</u> i.e., Lt Inf Bn, AR Bn)
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. HAVE YOU HAD TDA PLATOON LEADER EXPERIENCE, or any other type of platoon experience not listed above?
Yes___ No___

<u>Positions Held</u> (i.e., Plt Ldr, XO)	<u>Time in Months</u> 14	<u>Type Unit (Lt/Hvy)</u> AR OBC Spt)
_____	_____	_____
_____	_____	_____

3. BATTALION LEVEL STAFF assignments? Yes___ No___ Be sure to specify whether TOE or TDA.

<u>Positions Held</u> (i.e., S1, S3 Air, S4, etc.)	<u>TDA/TOE</u> TOE	<u>Time in Months</u> 12	<u>Type Unit</u> i.e., Mech Bn, AR Bn)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. BRIGADE REGT. GROUP, OR DIVISION LEVEL STAFF assignments? Yes___ No___

<u>Positions Held</u> (i.e., BDE S1, Div G3)	<u>TDA/TOE</u> TOE	<u>Time in Months</u> 14	<u>Type Unit</u> i.e., AR Div, Lt Inf BDE)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

ENSURE YOU LIST EACH POSITION "SEPARATELY" BE SPECIFIC IN ANSWERING ALL QUESTIONS.

5. COMPANY/TROOP COMMAND assignments? Yes_____No_____

<u>Positions Held</u> (i.e., Co/Trp CDR)	<u>TOE/TDA</u> TOE	<u>Time in Months</u> 15	<u>Type Unit</u> i.e., Ar Bn, Lt Inf Bn, Ranger)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. CORPS LEVEL STAFF OR ABOVE assignments? Yes_____No_____

<u>Position Held</u> (i.e., G1/G3-Ops/TNG)	<u>Time in Months</u> 16	<u>Type Unit Organization</u> i.e., III Corps, SHAPE)
_____	_____	_____
_____	_____	_____
_____	_____	_____

7. SPECIAL TRAINING? Yes_____No_____

Ranger School	Yes_____No_____	OTHER _____ _____ _____
Airborne School	Yes_____No_____	
Pathfinder	Yes_____No_____	
Special Forces	Yes_____No_____	
Scout Plt Ldr Crs.	Yes_____No_____	
SERE	Yes_____No_____	
(Survival, Escape, Resistance and Evasion)		

8. ROTATIONS at NTC/CMTC/JRTC as part of an evaluated unit? Yes_____No_____

<u>Position Held</u> (i.e., Plt Ldr, BMO)	<u>Type Unit Organization</u> i.e., Ar Bn, Inf Bn	<u>Which Tng Center</u> i.e., CMTC, NTC, JRTC)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Total Number of NTC/CMTC/JRTC Rotations as part of an evaluated unit ? _____

10. Observer Controller experience at NTC/CMTC/JRTC? Yes_____No_____

<u>Position Held</u> (i.e., Inf Plt/S4 OC)	<u>Time in Months</u> 9	<u>Which Tng Center</u> i.e., NTC/JRTC/CMTC)
_____	_____	_____
_____	_____	_____
_____	_____	_____

11. COMBAT/Contingency/JFTX or Other than NTC operations deployments? Yes _____ No _____

<u>Position Held/Type Unit</u> (i.e., Mech Plt Ldr, S4 Ar Bn Bosnia etc)	<u>Time in Months</u> 4	<u>Deployment Type</u> i.e., Desert Shield, Haiti.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

12. HOW MANY COMBAT OR CONTINGENCY DEPLOYMENTS? _____

13. Please list all your additional experience not listed above. This may include, but is not limited to: specific functional area assignments, AC/RC, ROTC, Recruiting, school instructor. Be specific, include job title, type of activity and amount of time in months you served:

<u>Position Held</u> (i.e., ROTC, Gen Aide	<u>Time In Months</u> 23	<u>Unit/ORG</u> Univ of Ohio/CG 1AD)
_____	_____	_____
_____	_____	_____
_____	_____	_____

PART THREE

This portion of the survey asks you to PLACE YOURSELF IN THE POSITION OF BEING A BATTALION COMMANDER and to make decisions. There is no single right answer to these questions and admittedly more information would be desirable, but do the best you can given the amount of information available and commit to a single choice. Reminder, read scales carefully.

You are a battalion commander conducting offense operations. Your battalion is at 90% strength and has traveled for several hours to reach the planned attack position. Your battalion is the main effort in a brigade hasty attack with the mission of defeating a company size element holding a position key to future operations. You arrive at the attack position and find the position undesirable for many reasons. You know that the attack is to commence in 60 minutes, and elect to reposition prior beginning the brigade attack. In the act of repositioning you lose communication with your brigade commander and cannot notify him of your decision to reposition. While repositioning, your lead company moves into a minefield and begins taking sporadic direct fire. The company commander reports he's been ambushed and has several casualties, but only one platoon is decisively engaged. Time is running out. If you break contact now you may continue with the hasty attack as planned.

Select only one of the following choices. Put an "X" next to the answer which most closely matches your decision given the information available.

- ☐ Break contact with remainder of the Task Force (with all but one platoon that is in contact) and head to the Line of Departure as planned.
- ☐ Place your S3 in command of the current situation, leaving the company in contact to defeat the immediate threat and depart with the rest of your TF to the line of departure.
- ☐ Commit additional combat power (above and beyond that one company) to the current fight to quickly defeat enemy forces in contact, then attempt to make up ground to join the brigade in the main attack.
- ☐ Send a messenger to the brigade commander advising him of your situation, and suggesting CONPLAN A be put into effect to re-allocate the main effort to the other Task Force.

How confident are you that your choice is the best decision given the available information? (Circle One)

- | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------|---------------------------------------|--------------------------------------|--|---|-------------------|
| NOT AT ALL
CONFIDENT | SLIGHTLY
CONFIDENT;
VERY UNSURE | SOMEWHAT
CONFIDENT,
BUT UNSURE | PRETTY
CONFIDENT,
SLIGHTLY
UNSURE | VERY CONFIDENT;
BUT NOT ENTIRELY
SURE | TOTALLY CONFIDENT |

To what extent do you need your staff's input to make this decision? (Circle One)

- | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------|-----------------------------|-------------------------------|---------------------------|---------------------|--|
| NO INPUT
NEEDED | VERY LITTLE
INPUT NEEDED | WOULD CONSIDER
STAFF INPUT | WOULD SEEK
STAFF INPUT | NEED STAFF
INPUT | WOULD MAKE DECISION
ONLY WITH STAFF INPUT |

To what extent do you need to get a second opinion prior to implementing this decision? (Circle One)

- | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------------|---|
| ABSOLUTELY
NO DISCUSSION
NEEDED | PROBABLY NO
DISCUSSION
NEEDED | DON'T CARE
EITHER WAY | NICE IF IT
WORKED OUT | I WOULD NEED
IT IF POSSIBLE | I WOULD VERY MUCH
NEED TO TALK WITH
SOMEONE FIRST |

To what extent have you been in a situation like this before? (Circle One)

- | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------------|--|---------------|-----------------------------------|----------------------|--|
| NEVER
EXPOSED TO IT | INFORMALLY
DISCUSSED
WITH OTHERS | READ ABOUT IT | TRAINED UNDER
THESE CONDITIONS | ACTUALLY
FACED IT | HAVE FACED
THESE SITUATIONS
FREQUENTLY |

You are the battalion commander establishing a deliberate defense. Your Task Force has been in position for approximately 24 hours and is part of a larger divisional size defense. Your TF is responsible, as the western-most force in the division, to remain tied-in with the adjacent division and serves also as the brigade western flank security. The enemy was expected to begin conducting offensive operations in your sector in about 72 hours, but the enemy conducts its attack much earlier than expected. You have only established hasty defensive positions and do not yet have interlocking fires established with the adjacent division. Your sector is experiencing only very limited activity; however, your brigade commander is very concerned with enemy pressure facing the battalion in the east, and is contemplating repositioning your battalion to reinforce the fires of the battalion in contact. The brigade commander already committed the company size reserve; however, he isn't comfortable that they have enough combat power to deny a penetration. An hour passes when you begin receiving reports that increased enemy movement is occurring on your western flank. The size of the enemy force maneuvering to your western flank has not been confirmed, but appears to be at least battalion size. You are called by the brigade TOC, which is on the move, informing you that the brigade commander is assumed dead and the remainder of the brigade command group cannot be reached. A sister battalion commander calls from the center sector and tells you he has assumed control of the brigade per SOP, and requests your recommendation about employment of your force. The brigade TOC has lost control of the fight and does not have communications with the Division TAC/MAIN/ADC-M or CG.

Select only one of the following choices. Put an "X" next to the answer which most closely matches your decision given the information available.

- _____ Reposition your TF to support the TF in contact to prevent possible penetration; in doing so, accept risk on the west flank.
- _____ Hold the current position, unsure of the size and intent of the threat on your western flank, and hope the TF in contact, with help of the BDE reserve, can prevent penetration.
- _____ Hold the current position with one company and reposition the remainder of your TF to reinforce the TF currently in contact.
- _____ Prior to making any decision, reposition yourself, center sector, to improve situational awareness (about 30 minutes travel).

How confident are you that your choice is the best decision given the available information? (Circle One)

1	2	3	4	5	6
NOT AT ALL CONFIDENT	SLIGHTLY CONFIDENT, VERY UNSURE	SOMEWHAT CONFIDENT, BUT UNSURE	PRETTY CONFIDENT, SLIGHTLY UNSURE	VERY CONFIDENT, BUT NOT ENTIRELY SURE	TOTALLY CONFIDENT

To what extent do you need your staff's input to make this decision? (Circle One)

1	2	3	4	5	6
NO INPUT NEEDED	VERY LITTLE INPUT NEEDED	WOULD CONSIDER STAFF INPUT	WOULD SEEK STAFF INPUT	NEED STAFF INPUT	WOULD MAKE DECISION ONLY WITH STAFF INPUT

To what extent do you need to get a second opinion prior to implementing this decision? (Circle One)

6	5	4	3	2	1
ABSOLUTELY NO DISCUSSION NEEDED	PROBABLY NO DISCUSSION NEEDED	DON'T CARE EITHER WAY	NICE IF IT WORKED OUT	I WOULD NEED IT IF POSSIBLE	I WOULD VERY MUCH NEED TO TALK WITH SOMEONE FIRST

To what extent have you been in a situation like this before? (Circle One)

1	2	3	4	5	6
NEVER EXPOSED TO IT	INFORMALLY DISCUSSED WITH OTHERS	READ ABOUT IT	TRAINED UNDER THESE CONDITIONS	ACTUALLY FACED IT	HAVE FACED THESE SITUATIONS FREQUENTLY

You are a battalion commander of a battalion recently alerted and deployed to Mexico City with the mission to guard several key resources (a Dam, Power Plant, and several Grain Warehouses within a 10 square mile area) against possible attacks by terrorist insurgents whose recent activities are increasing political turmoil and instability in the country. The purpose of your operation is to safeguard these resources to prevent further degradation of the people's faith and confidence in the democratic government in control. During day five of the mission, you conclude that you are not adequately resourced or manned to protect all of these facilities simultaneously given the terrorist threat. All companies in your Bn are committed to the three assigned areas with priority for security being the Dam (highest priority), the Grain Warehouses, and the Power Plant. Multiple exchanges of fire and increased terrorist activities in other areas within the city leave you concerned for your soldiers' safety. Additional forces are preparing for deployment, but they will not arrive for many days. You are under orders to follow the guidance of the US Ambassador to Mexico who is diligent in his request to maintain security at all assigned locations. It is 0020 hours on day six, the situation in the vicinity of the Grain Warehouses escalates and you receive reports indicating that your soldiers there are in danger of being over-run. You request permission through channels from the Ambassador to reposition forces from the area of the Dam to the Grain Warehouse, but due to the late hour he cannot be reached.

Given only this information, you must select one of the following choices. Put an "X" next to the answer which most closely matches your decision given this scenario and information available.

- ☐ Request AC 130 spectre gunship support (3 hour delay) and put all forces on high state of alert, but allow no repositioning.
- ☐ Remove forces in danger of being over-run from the Grain Warehouse location to a safer area.
- ☐ Accept risk, in the absence of approval, and reposition forces from the dam (30 min. delay) to the grain warehouse location.
- ☐ Reposition forces from the Power Plant (1.5 hour delay) to the Grain Warehouse.

How confident are you that your choice is the best decision given the available information? (Circle One)

1	2	3	4	5	6
NOT AT ALL CONFIDENT	SLIGHTLY CONFIDENT; VERY UNSURE	SOMEWHAT CONFIDENT, BUT UNSURE	PRETTY CONFIDENT, SLIGHTLY UNSURE	VERY CONFIDENT; BUT NOT ENTIRELY SURE	TOTALLY CONFIDENT

To what extent do you need your staff's input to make this decision? (Circle One)

1	2	3	4	5	6
NO INPUT NEEDED	VERY LITTLE INPUT NEEDED	WOULD CONSIDER STAFF INPUT	WOULD SEEK STAFF INPUT	NEED STAFF INPUT	WOULD MAKE DECISION ONLY WITH STAFF INPUT

To what extent do you need to get a second opinion prior to implementing this decision? (Circle One)

6	5	4	3	2	1
ABSOLUTELY NO DISCUSSION NEEDED	PROBABLY NO DISCUSSION NEEDED	DON'T CARE EITHER WAY	NICE IF IT WORKED OUT	I WOULD NEED IT IF POSSIBLE	I WOULD VERY MUCH NEED TO TALK WITH SOMEONE FIRST

To what extent have you been in a situation like this before? (Circle One)

1	2	3	4	5	6
NEVER EXPOSED TO IT	INFORMALLY DISCUSSED WITH OTHERS	READ ABOUT IT	TRAINED UNDER THESE CONDITIONS	ACTUALLY FACED IT	HAVE FACED THESE SITUATIONS FREQUENTLY

PART IV

1. Given your experience to date, and experience you expect to have as a battalion S3/XO, how confident are you about your ability to make sound tactical decisions as a maneuver battalion commander if selected for battalion command someday? (Circle One)

1	2	3	4	5	6
VERY UNCONFIDENT	SOMEWHAT UNCONFIDENT	ONLY SOMEWHAT CONFIDENT	CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT, NEAR CERTAIN

2. How realistic are these three scenarios to situations you might encounter someday as a battalion commander? (Circle One)

#1 Break Contact/Attack (Circle One)

1	2	3	4	5	6
NOT AT ALL REALISTIC	VERY LITTLE REALISM	SOMEWHAT REALISTIC	REALISTIC, BUT BUT NOT LIKELY	REALISTIC	VERY REALISTIC

#2 Defend/Reposition (Circle One)

1	2	3	4	5	6
NOT AT ALL REALISTIC	VERY LITTLE REALISM	SOMEWHAT REALISTIC	REALISTIC, BUT BUT NOT LIKELY	REALISTIC	VERY REALISTIC

#3 OOTW/Insurgents (Circle One)

1	2	3	4	5	6
NOT AT ALL REALISTIC	VERY LITTLE REALISM	SOMEWHAT REALISTIC	REALISTIC, BUT BUT NOT LIKELY	REALISTIC	VERY REALISTIC

3. To what extent were you able to put yourself in the role as the battalion commander in each of the scenarios?

#1 Break Contact/Attack (Circle One)

1	2	3	4	5	6
VERY UNEASY	UNEASY	ONLY SOMEWHAT COMFORTABLE	COMFORTABLE	VERY COMFORTABLE	EXTREMELY COMFORTABLE

#2 Defend/Reposition (Circle One)

1	2	3	4	5	6
VERY UNEASY	UNEASY	ONLY SOMEWHAT COMFORTABLE	COMFORTABLE	VERY COMFORTABLE	EXTREMELY COMFORTABLE

#3 OOTW/Insurgents (Circle One)

1	2	3	4	5	6
VERY UNEASY	UNEASY	ONLY SOMEWHAT COMFORTABLE	COMFORTABLE	VERY COMFORTABLE	EXTREMELY COMFORTABLE

PLEASE GO BACK AND CHECK TO ENSURE YOU COMPLETED ALL QUESTIONS ON THE SURVEY.
If you have any added comments please write them on the back of this page and they will be reviewed. Thank You.

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